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ABSTRACT

This annual report analyzes the quality of academic standards in the 50 states, the District of Columbia, and Puerto Rico and monitors the extent to which those standards are driving education reform. The report describes criteria used to evaluate state standards and provides commentary on each state's standards, highlighting areas of strength and pinpointing weaknesses that must be addressed to improve the standards. The report also examines: states' activities and intentions to assess whether students are meeting the standards; whether states are providing extra academic help to students who are having difficulty meeting the standards; and whether states are attaching meaningful consequences to the standards so that students and others take them seriously. Findings indicate that the standards-based reform movement is getting stronger in the states, and the overall quality of state standards continues to improve. Twenty states have incentives to motivate students to achieve a higher standard than required of all students. Recommendations for how states can strengthen their standards and develop policies to support their reform efforts are included. Two appendixes review state documents and present content resources. (SM)

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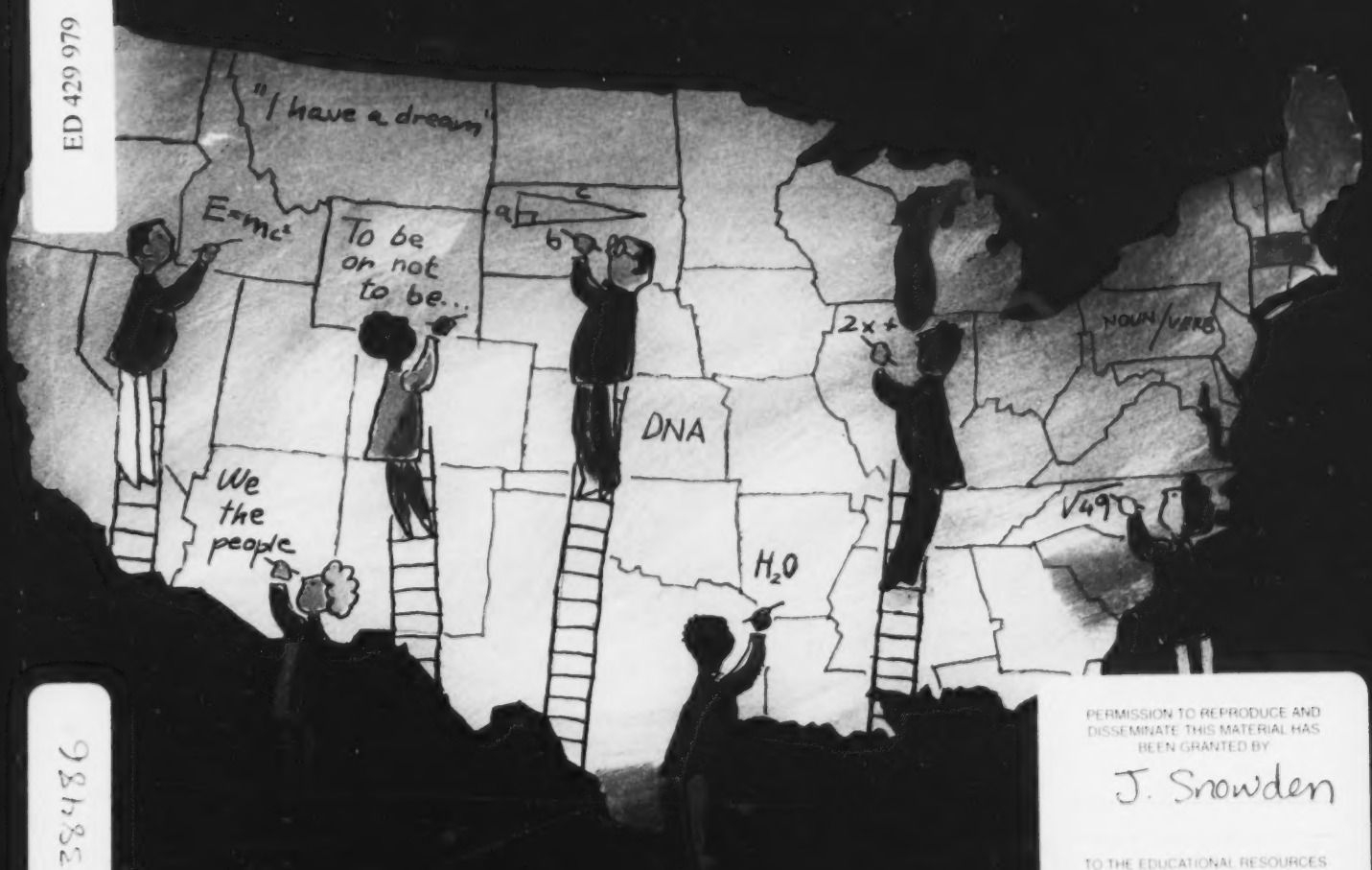
MAKING STANDARDS MATTER 1998

AN ANNUAL FIFTY-STATE REPORT ON EFFORTS TO RAISE ACADEMIC STANDARDS



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AMERICAN FEDERATION OF TEACHERS

MAKING **STANDARDS** MATTER **1998**

AN ANNUAL
FIFTY-STATE REPORT
ON EFFORTS
TO RAISE
ACADEMIC STANDARDS

AMERICAN
FEDERATION
OF TEACHERS

The **American Federation of Teachers** (AFT) represents the professional, economic, and social concerns of more than 1,000,000 members, primarily elementary and secondary teachers, higher education faculty, and other school employees. The AFT is committed to helping its members bring excellence to America's classrooms and full professional status to their work.

Sandra Feldman, AFT President

Ruth Wattenberg, Director, Educational Issues Department

■■■

Making Standards Matter 1998 is a publication of the AFT Educational Issues Department. The department provides members with research, publications, technical assistance, and training programs related to their professional concerns.

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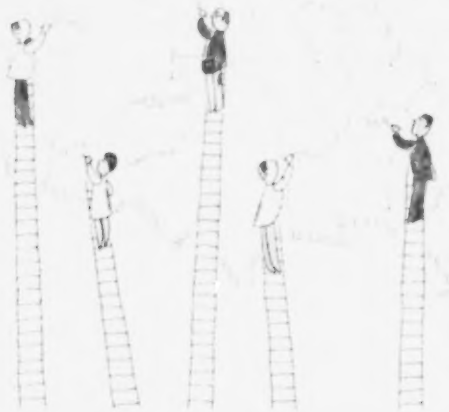
Executive Summary



Making Standards Matter is an annual report by the American Federation of Teachers that analyzes the quality of the academic standards in the 50 states, the District of Columbia, and Puerto Rico and monitors the extent to which those standards are driving education reform. In this edition of *Making Standards Matter,* we provide commentary on each state's standards, highlighting areas of strength and pinpointing weaknesses that must be addressed to improve the standards. We also report on states' activities and intentions to assess whether students are meeting the standards, whether states are providing extra academic help to students who are having difficulty meeting the standards, and whether states are attaching meaningful consequences to the standards so that students and others take them seriously. Without these additional components, it is doubtful that even the best standards will have much of an impact on student achievement.

Major Findings

- **States' commitment to standards-based reform remains strong. The District of Columbia, Puerto Rico, and every state except Iowa have set or are setting common academic standards for students.**
- **The overall quality of the state standards continues to improve. Despite the AFT "raising the bar" on what constitutes quality standards, 19 states—up two from 1997—have standards that are generally clear and specific and grounded in particular content to meet AFT's common core criterion.**
- **Although standards have improved in many states, most states have more difficulty setting clear and specific standards in English and social studies than in math and science.**
- **The majority of states are committed to measuring student achievement toward the standards.**
- **Through test items, scoring rubrics, and/or student work samples, many states (19) describe the level of mastery students must demonstrate to meet the state standards.**
- **Ten states have policies for ending social promotion—the practice of passing students from grade to grade regardless of whether they have mastered the standards. And seven of those states link their promotion policy to the standards.**
- **More states (24) have or will have high school exit exams based on the standards as compared to last year (20). And more states with "mini-**

mum competency" exit exams are "upgrading" these tests to reflect 10th-grade standards or higher.

- Twenty states have or are developing incentives (advanced diplomas, free college tuition) to motivate students to achieve a higher standard than that required of all students.
- Since our 1997 report, 20 states, an increase of seven, require and fund academic intervention programs for students who are struggling to meet the standards, but still less than half of the states have intervention programs in place.
- In sum, the standards-based reform movement is getting stronger in the states. In 1995, 13 states had standards that met our criteria; today 19 states do. In 1995, 33 states had or were planning assessments aligned with the standards. In 1998, 47 states have or are planning assessment programs. In 1995, seven states had high school exit exams aligned at least to 10th-grade standards; today 13 states have such exit exams. In 1996, only three states had promotion policies based on achievement of the standards; today eight states have such policies. In 1996, eight states had incentives to reward students for very high achievement; today 20 states have incentives. And significantly, since 1996, the number of states offering intervention for students having difficulty meeting the standards has increased from 10 to 20.

Recommendations

- States need to improve their attention to the reading basics at the elementary level, especially in the primary grades (K-3), to include specific guidance on the basic knowledge and skills students should learn to develop into proficient readers.
- Social studies standards need to be focused and explicit about the U.S. and world history students should learn at each of the three educational levels.
- Standards development is a continual process. Standards need to be revisited and revised as states delve deeper into standards-based curriculum development, aligned assessments, and standards-based professional development.
- More work needs to be done on aligning assessments to the standards and in describing what adequate performance on the standards looks like.
- All teachers and other stakeholders must have easy access to the standards and the full complement of clarifying documents and supplemental materials that states develop to illustrate the standards.
- As more states implement "high stakes" policies based on the standards, programs must be in place to identify struggling students *early* in their school careers and to provide them with targeted academic assistance.

TABLE 1
Efforts to Implement Standards-based Reform in the 50 States, the District of Columbia, and Puerto Rico

	1995	1996	1997	1998
States* with clear and specific standards	13	15	17	19
States with assessments aligned with the standards	33	42	46	47
States with promotion policies based on achievement toward the standards	N/A	3	7	7
States with exit exams aligned to the 10th-grade standards or higher	7	13	13	13
States with incentives for students to reach higher standards	N/A	8	16	20
States with intervention for students having difficulty meeting the standards	N/A	10	13	20

*In this report, "state" tallies are based on the 50 states, the District of Columbia, and Puerto Rico.

Introduction

Why Standards-based Reform?

During the past several years, academic standards have become a central focus of the national discussion about improving schools. The idea is to set clear standards for what we want students to learn and to use those academic standards to drive other changes in the system—e.g., curriculum, assessment, professional development.

This may sound like common sense, but the idea is a relatively new one in this country. Some of our teachers, schools, and communities have always had high expectations for their children, but until recently, there has been little effort at the national, state, or local levels to set clear, measurable standards for what *all* students in elementary, middle, and secondary schools should know and be able to do in the core academic subjects. Historically, states and districts haven't organized curriculum around a clearly defined set of expectations, nor have they developed assessment systems that measure whether students are meeting rigorous, publicly available standards.

The result, not surprisingly, is that students have been learning different things from school to school, district to district, and state to state, and expectations for them have not been high enough. Some children get exposed to rigorous courses; others don't. Some students get good grades only if they master challenging material; others get good grades and promotions no matter what they do. Many students get passed from grade to grade regardless of how much they learn, and many graduate unprepared for work or post-secondary education. In such an environment, teachers who try to uphold high academic standards with tough grading and promotion policies and demanding homework are often pressured by administrators, parents, and students to ease up. In the absence of clear standards, teachers are powerless.

Without a system of standards, the negative effects of student mobility are compounded. One-fifth of students change schools each year, and in low-income neighborhoods the rates are much higher. With no common standards in place, mobile students usually arrive in their new classrooms way behind or ahead of the other students, which places a considerable strain on the teacher, the student, and the entire class.

Another consequence of this lack of clear standards is that components of the system which should be well aligned and working together—curriculum, assessment, teacher education, professional development—are largely disconnected. Many of the tests students take over the course of their school careers are not tied to the curriculum they are studying. And most training and professional development programs for teachers and other school staff lack a focus and a clear connection to the standards and the curriculum.

The intent of the standards movement is to change this situation. With clear and rigorous standards to guide them, educators and other stakeholders can focus their energies and resources on improving the academic performance of our nation's students. Sound standards-based systems can help guarantee that all children, regardless of background or neighborhood, will be exposed to a rigorous academic curriculum throughout their educational careers. Such systems hold students to much higher standards than they have been expected to meet in the past and ensure that the standards and curriculum will be common across schools and districts, reducing the problems of low expectations for disadvantaged students and ameliorating the impact of student mobility. States and districts can help all students reach the standards by making the necessary resources and assistance available to those students in danger of failing. And all of this can spell the end for the destructive, deceptive practice of social promotion. It all begins with a strong set of standards.

Setting the Context

Making Standards Matter is an effort to assess how far states' work on standards has progressed over the years and to determine how much work remains to be done. The AFT first issued *Making Standards Matter* in the summer of 1995, five years after the first National Education Summit and one year after the Clinton administration's Goals 2000, which brought the standards issue to the forefront of systemic school reform. Until the release of our report, there had been no comprehensive analysis of education standards in the states.

States, through their persistent work to develop and improve academic standards, have propelled the standards movement forward. Nationwide, states have placed content standards at the center of systemic reforms that focus on upgrading curriculum and strengthening accountability through initiatives and policies linked to standards. In this context, with so much depending on the standards, it is more important than ever to critically examine the quality of academic standards to determine if they are solid enough to support the reforms being built upon them.

In 1995, we were alone in our work of reviewing states' content standards, but over the last year or so, other organizations have joined the AFT in this endeavor. Today, three groups are involved in reviewing state standards: the AFT, the Council for Basic Education (CBE), and the Fordham Foundation. The reviews conducted by these organizations attempt to highlight issues about the quality of states' academic standards and to offer thoughtful commentaries and constructive critiques for advancing the standards-setting process. We know, however, that states and others who look to these reviews for guidance have expressed some concern about disparities among the groups' ratings. This concern is echoed in a recent report, commissioned by the federally created National Education Goals Panel, which compares and contrasts the evaluation methods of the three review groups. The report finds that each review indicates a broad range of quality among state standards and notes discrepancies among the groups' ratings.

Although there is more accord than disagreement among the standards review groups, it is important to remember that certain fundamental differences influence the judgments these groups make about standards. The primary reasons for the apparently conflicting ratings are (1) the criteria applied in the various reviews, and (2) the documents examined by each of the groups.

The Criteria

- The AFT judges whether states' standards in English, math, science, and social studies are sufficiently clear, specific, and well-grounded in content to meet our "common core criterion"—i.e., that the standards can support the development of a common, challenging curriculum.
- The CBE has designed English language arts and math frameworks against which to evaluate the standards in those subjects—an approach that essentially determines the extent to which states' standards match CBE's standards.
- Fordham's reviews examine the rigor of standards, but do so by assessing standards in English, math, science, history, and geography against subject-specific criteria.

Documents

Only the AFT has examined the English, math, science, and social studies standards documents for all states, the District of Columbia, and Puerto Rico, which sets our analysis apart in terms of comprehensive national coverage. Even when examining the same states the three groups did not always review the same documents, because different drafts were available at the time their respective reports were published. The three groups studied some—but not all—of the same standards documents, due in part to different levels of persistence in searching for documents, different definitions of "standards," or different beliefs about where clarification of standards can be found. The AFT, for example, looks beyond the primary standards document(s) to consider all supplementary materials and any other available documents (e.g., test specifications, teacher handbooks) that help convey the intentions of the standards. The other two groups do not typically consider the same array of relevant materials.

To make the most constructive use of the major standards reviews, it is essential that states begin with a clear understanding of the criteria applied and the relevant documents considered by each review group. For instance, Fordham's criteria for math standards consider the rigor and appropriate-

ness of the standards, but withhold credit from states whose standards integrate math and technology. AFT's criteria consider neither of these points, focusing instead on how clear and specific the standards are. Such distinctions between the groups' criteria are important for states to recognize when using the reviews to guide their work. Nonetheless, we stress that, despite some differences in criteria, there is more agreement than not in the reasoning and judgments presented by the different reviewers. For instance, in their reviews of state math standards, the judgments of *Making Standards Matter 1998* and Fordham reflect 71 percent agreement. And there is 95 percent agreement between the judgments expressed in this year's AFT review of social studies standards and those offered in Fordham's review of history standards.

What We Did

Making Standards Matter focuses both on the quality of state standards and on the policies that should be in place to help students reach those standards. Educators want to be sure the standards are clear and specific enough to guide curriculum in schools, and that the standards will be applied consistently so no student gets left behind.

Much of this report is devoted to evaluating the quality of the state standards in the core academic areas—English, math, science, and social studies. But standards alone will not get us very far, so we also asked states a number of questions about their plans for assessing the standards, for attaching consequences to those assessments, and for identifying and providing assistance to students having difficulty meeting the standards.

In preparing this report, we interviewed scores of officials and analyzed standards and curriculum documents from all 50 states, the District of Columbia, and Puerto Rico. We collected a broad array of materials from states in order to understand their standards. States often use different terminology or more than one document to help convey their expectations; they include objectives, benchmarks, handbooks, frameworks, test specifications, or guides. We asked for supplemental information that had been developed to clarify the expectations articulated in the standards. In some cases, it is only through such information that we can fully understand the intent of the standards. The materials reviewed for each state are included in *Appendix A*.

As a courtesy, we sent our draft findings to each state superintendent and deputy superintendent in advance of publication and asked them to make us aware of any inaccuracies or inconsistencies so that we could make the necessary changes. We also offered to publish state responses in our report as we have done every year. Thirty-three states sent letters this year.

Report Format

This report consists of five major sections. Section I, *Judging State Standards Reforms*, describes the criteria we used to evaluate state standards and the other issues related to state standards-based education reform that we explored—assessment policy, incentives and consequences related to student performance, and intervention programs for struggling students. We strongly recommend that readers examine these criteria and their accompanying rationales before trying to understand our overall findings or our commentary about any particular state.

Section II, *Major Findings*, presents the summary analysis of the quality of state standards, the work under way on assessments, and the plans for student incentives and interventions linked to the standards. Section III, *Recommendations*, offers suggestions for how states can work to strengthen their standards and develop policies to support their reform efforts.

The final two sections of the report contain specific information on each state. Section IV consists of a discussion of the strengths and weaknesses of each state's standards as well as a report on their plans for assessment, student incentives, and academic intervention. Section V contains the letters we received from states. In some cases, we changed our findings based on new information that the states provided. In these instances, we highlight the relevant points in the letters.

I. Judging State Standards Reforms

The American Federation of Teachers believes that the success of school reforms in the states will depend in large part on the quality of the academic standards states set for children and also on how seriously those standards are taken by everyone connected with the schools. This report highlights some of the characteristics of high-quality standards and of systems that support such standards. We don't claim to have covered every important question that needs to be asked, but we do feel that each of the issues we raise here about standards, assessments, and the extent to which the standards will "count" is crucial for states to address. The conclusions we reach about particular states are understood only in the context of these criteria.

Standards

Issue 1: Does the state have, or is it in the process of developing, standards in the four core academic subjects—English, math, science, and social studies?

What are students expected to learn in each of the core academic subjects? This question is at the heart of what a good set of achievement standards should convey. Although the AFT believes that the academic curriculum should include the arts and foreign languages along with the four core academic subjects, this report is limited to English, math, science, and social studies, which most states have taken up first.

It is not enough for state standards to simply touch upon or reference these four disciplines. Each discipline represents a body of knowledge and a "disciplined" way of thinking that has evolved over centuries. To be complete, a set of standards must embody the knowledge essential to each of the core subjects, and this cannot be accomplished by trying to fit disciplinary knowledge into broad over-arching, non-disciplinary categories such as "critical thinking" and "problem solving." If standards setters

ignore or significantly blur disciplinary boundaries, there is a real danger that the integrity of the disciplines—the essential knowledge and skills that make each subject unique—will get lost.

Although there can be real value in interdisciplinary study, this should be a pedagogical decision rather than a broad policy imperative shaped by state standards. The standards themselves should not be interdisciplinary. They are meant to define what is essential for students to learn; standards should not dictate how that material should be taught. Those decisions are best left to the professionals in the schools.

How We Made Our Judgment

This criterion was easy to assess. We simply wanted to know which states have standards documents, regardless of what they are called—e.g., standards, frameworks, objectives, benchmarks, that describe what students should know and be able to do in each of the core academic subjects. Our intention with this criterion is not to judge the quality of the standards, but to acknowledge states for having public standards documents focused on the four core disciplines.

Issue 2: Are the standards clear and specific enough to provide the basis for a common core curriculum from elementary through high school?

In 1995, when we first released *Making Standards Matter* we focused our review on the standards in their entirety. We did not provide detailed comments or judgments on a subject-by-subject basis; rather we provided one overall judgment on the clarity and specificity of the standards. In 1996 and 1997, we conducted a deeper review and focused on the clarity and specificity of each of the four core subjects—*English, math, science, social studies.* We judged the subject-matter standards overall, and provided subject-specific comments for states to use to strengthen their standards, but we did not give any feedback on a grade-by-grade or level-by-level basis.

This year we examined the standards for each subject at each level—elementary (approximately grades K-5), middle (approximately grades 6-8), and high school (approximately grades 9-12). If the standards are going to be powerful levers for raising student achievement, they must be clear, specific, and focused on content and skills at each level. They must build upon and enhance prior knowledge. As E.D. Hirsch, Professor of Education and the Humanities at the University of Virginia, says in his book, *The Schools We Need and Why We Don't Have Them:*

> All the most successful educational systems in the world teach a core of knowledge in the early grades. They do this because as both research and common sense demonstrate, we learn new knowledge by building on what we already know. It is important to begin building foundations of knowledge in the early grades because that is when children are most receptive, and because academic deficiencies in the

Examples of standards that meet and do not meet the AFT's criteria

	Strong Standards	Weak Standards
English	Students should be able to develop a descriptive essay that depicts an object or event, maintains a consistent focus, uses a logical sequence, and elaborates each idea with specific details and vivid vocabulary.	Upon graduation, the student shall have had the opportunity to write frequently, using varied formats for a variety of purposes and audiences.
History	Students should be able to describe how United States federalism was transformed during the Great Depression by the policies of the New Deal and how that transformation continues to affect United States society today.	Students should be able to identify and explain how events and changes occurred in significant historical periods.
Math	The student will differentiate between area and perimeter and identify whether the application of the concept of perimeter or area is appropriate for a given situation.	Students should be able to represent and solve problems using geometric models.
Science	Students should be able to describe the basic processes of photosynthesis and respiration and their importance to life.	Students will compare patterns of change and constancy in systems.

first six grades can permanently impair the quality of later schooling.

Findings from the Third International Mathematics and Science Study (TIMSS) support the need for standards and curricula that build upon prior knowledge while introducing increasingly complex material at each level of schooling. TIMSS compares the math and science achievement of U.S. fourth, eighth, and 12th graders with the achievement of their respective international peers. Results show that while U.S. student performance compares more favorably with international performance in the early grades, it falls further and further behind in the eighth and 12th grades. TIMSS reveals that in the U.S., students in the early grades tend to study the same foundational content as most of the world at the elementary level, and our students perform well on the basics. In middle school, in contrast to what happens in the rest of the world, U.S. math instruction does not take previously taught content to more complex levels, nor does it introduce challenging material that prepares students to learn higher-level content in the later grades. Consequently, our eighth graders are still studying basic material that has been mastered and elaborated upon by their international peers. This, in turn, affects what is taught and achieved in the 12th grade.

Standards should require that elementary students be exposed to a solid foundation of knowledge and skills in a subject, so a more in-depth study of that subject is possible when students reach the upper grades. At each subsequent level, the standards should develop from the strong content presented at the prior level, thus enabling a coherent curriculum from elementary to high school—one that depends on prior knowledge to help students achieve new and higher standards of achievement as they progress through school.

How We Made Our Judgment

In looking at each state's standards documents, our task was to determine whether there was enough information about what students should learn to provide the basis for a common core curriculum. There is no perfect formula for this; it requires a series of judgment calls.

States that organize their standards grade by grade and thoroughly ground their standards in content usually do the best job of specifying what students should learn and when they should learn it. Grade-by-grade standards increase the likelihood that all students are exposed to a rigorous curriculum that is consistent from grade to grade, school to school, and district to district. Clear grade-by-grade standards also facilitate greater alignment of standards-based curriculum, assessments, textbooks, and instruction. With clustered standards, stakeholders only know where students need to be at the last grade level of each cluster; parents, teachers, and others are given little guidance as to whether students below that grade level are on target for meeting the standards. In a K-4 cluster, for example, the kindergarten, first-, second-, and third-grade teachers have little guidance on the specific content or skills that students have to acquire in first, second, or third grade to prepare them to meet the fourth-grade standards. This is not to say that standards *must* be grade by grade to meet our criteria. Some states that do not have grade-by-grade expectations also provide enough information and present it clearly enough in their standards to meet our criterion.

We look for the following qualities to determine whether a set of standards meets our "common core" criterion:

1) Standards must define in every grade, or for selected clusters of grades, the common content and skills students should learn in each of the core subjects. No matter how clear and specific standards may be, if they do not indicate the various grades or levels at which students are expected to master particular material, they are not very useful. A document that merely states what is to be accomplished by the end of schooling is not very helpful for ensuring a common core curriculum in the early and middle grades. Nor can it provide sufficient guidance to curriculum designers or test developers so that teachers know if their students are on track for meeting the standards at the end of their schooling.

Documents that simply repeat the same standard from cluster to cluster or grade to grade are nearly as ineffective as those with no grade breakdowns because they provide no indication of the development expected of students as they move from grade to grade. Standards that are the same from grade to grade or cluster to cluster but assert "student work will reflect a grade-appropriate level of quality and

complexity," without defining "grade-appropriate" in any of the documents, are also judged to be inadequate. Strong standards should show how knowledge and skills build over the years by clearly defining the specific expectations of progress or development for each grade or grade cluster. Otherwise, experience tells us that teachers, parents, students, curriculum and assessment developers are likely to interpret "grade-appropriate" differently, jeopardizing the implementation of a common core curriculum.

2) Standards must be detailed, explicit, and firmly rooted in the content of the subject area to lead to a common core curriculum. Strong standards must provide clear guidance to teachers, curriculum and assessment developers, textbook publishers, and others, so that one person's interpretation of the core knowledge and skills students should learn in a particular grade level or cluster of grades wouldn't be very different from someone else's. If the standards are unclear, the curriculum across schools and districts may vary widely, and the integrity of any assessments based on the standards may be compromised. Teachers, students, parents, and others will be left to guess the academic content and expectations for mastery, and if they guess wrong, student achievement will suffer.

In this report, we do not attempt to judge the overall quality or rigor of the content covered in each state's subject-matter standards. We do not try to determine, for example, whether the ninth-grade algebra standards in a given state contain the *most* salient content for ninth graders. But, the content must be defined. It is not enough for standards to emphasize the skills students should learn, but leave the content to local discretion. For instance, a standard that asks students to "edit their work to reflect correct grammar and mechanics" is inadequate according to our criteria. What level of grammar and mechanics is expected at the different levels? The grammar expected from a fourth grader is different and less sophisticated than the grammar expected of an eighth grader. The standards should reflect this difference. It is also not enough to make a laundry list of concepts and skills in order to "cover" everything. That approach will result in an unmanageable and often fragmented set of expectations that fails to define the content most important for students to learn.

3) For each of the four core curriculum areas, particular content must be present. In our 1996 and 1997 reports, we highlighted obvious "holes" or weaknesses in each subject—for example, a lack of history in the social studies standards. This year, we are more explicit about the particular content that must be present in each of the four subject-matter areas. We identified that content by reviewing numerous documents and reports to determine where there was consensus on content that all students should learn in each subject-matter area. *Appendix B* lists the materials reviewed, which include the national subject-matter standards documents, the National Assessment of Educational Progress (NAEP) frameworks, and the TIMSS framework. Having conducted these reviews, we concluded that even if standards documents were clear and specific, they would be judged insufficient if they did not include the following content at each grade level:

- **English:** The consensus in the documents on English language arts indicates that English standards should address the basic skills and knowledge that are the foundations of learning how to read (e.g., letter-sound recognition, decoding skills, and vocabulary), reading comprehension (e.g., exposure to a variety of literary genres), writing conventions (e.g., spelling, writing mechanics), and writing forms (e.g., narrative, persuasive, expository). In laying out these standards, it is important for a state to indicate in which grades or clusters key elements will be taught.
- **Math:** Based on the math documents reviewed, math standards should include number sense and operations, measurement, geometry, data analysis and probability, and algebra and functions at each level. It is necessary for the standards to provide guidance on the specific mathematical concepts students should learn at each level.
- **Science:** The science documents reviewed agree that specific earth, physical, and life sciences must be present at each level in the science standards.
- **Social studies:** The social studies and history documents reviewed agree that social studies standards should contain specific references to U.S. history, world history, and civics at each level.

4) Standards must provide attention to both

content and skills. It is not enough for standards to emphasize the skills students should learn but leave the content to local discretion. It is also not enough for standards to emphasize subject knowledge with no discussion of the skills needed to apply that knowledge. Skills isolated from content, and context or content items isolated from applications, are meaningless and impossible to teach or assess. To lead to a common core of learning across the state, it is imperative that the standards pursue process and application skills through the specific content of the subject areas.

For example, it is not enough for standards to simply name the "U.S. Revolutionary War" but provide no elaboration. Do students need to know the dates of the Revolutionary War, or should they analyze its causes and effects? Without some guidance on what students should be able to do with the knowledge, the quality and complexity of the student work will differ substantially across the state. Also, curriculum designers and assessment developers will be forced to make their own determination of what content to teach and how to assess students' understanding. Some students may be grossly unprepared for the tests through no fault of their own or their teachers, because the standards were not clear about the application skills students needed to be able to do.

Judging the Overall Quality of the Standards

For our review, we examined each state's standards using the principles discussed earlier and provided separate commentary for each subject. In an effort to increase the usefulness of the information provided to states and all those working to improve a state's standards, we focused our review on the specific strengths and weaknesses of each of the subject areas at each of the three levels—elementary, middle, and high school.

A chart similar to the following example is included on each state page in the *State-by-State Analysis* section. The chart shows the categories in which a state's standards include the critical content and are clear and specific enough to meet our criteria (designated with a "✔") and provides a brief explanation for why the standards in any category do not meet our criteria.

Sample State Chart

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	No world history and vague U.S. history	Vague U.S. and world history	Vague U.S. and world history

This year, for a state to be judged as having quality standards overall, at least nine of the above 12 categories must be clear and specific and include the necessary content. As the state pages reveal, states vary as to the quality of standards at different levels and in different subjects. In the *Sample State Chart*, nine of the categories meet our criteria (as designated by: "✔") and, therefore, this state meets the AFT's criteria. We believe nine-out-of-12 is a high standard; at least 75 percent of the state's standards documents are clear and specific and grounded in necessary content. Nonetheless, it is important to remember that even states meeting our criteria still have work to do to improve the clarity and specificity of the standards. For some states this work may be isolated to a single level; for others it may be an entire subject.

Assessments

Issue: Does or will the state have an assessment system aligned with the standards? If so, will the state assess students in all four core subjects and in each of the three grade spans?

An important reason for setting standards at the state level is to ensure that all students are offered a challenging curriculum and that their performance is judged according to consistently high expectations. Standards that are interpreted differently or that are inconsistently applied from district to district will not serve this function.

Even the most specific set of standards can be applied unevenly from district to district if there is no statewide curriculum framework and if the responsibility for measuring student progress is solely a local one. Why? Because the assessments are

what ultimately determine *how rigorously* a given set of standards is applied. The effectiveness of the most rigorous set of standards can be weakened by lax assessments, by tough assessments that allow very low pass scores, or by assessments that do not concentrate on the central content of the standards.

States that take responsibility for developing assessments aligned with their standards will do the best job of monitoring whether those standards are being consistently applied statewide. States that abdicate their responsibility and leave the task of assessment completely up to districts are not in a position to ensure consistency. Moreover, developing a good assessment system is expensive, and most districts do not have the expertise or funds to do this well. It is unfair and unrealistic for states to expect cash-strapped districts to develop their own high-quality assessments when they need to be taking a serious look at how best to deploy their resources in helping students reach higher levels of achievement. It is also wasteful. Why should hundreds of districts in a state each go through the expense of creating their own comprehensive assessment system to measure a common set of standards?

How We Made Our Judgments

The investigation of assessment policy was conducted through interviews of state officials only. We did not collect and analyze state tests nor did we verify state assertions about the alignment of their assessments with their standards. We established some basic principles of an effective state assessment system—assessments should be aligned with the standards, and they should be administered in the four core subjects at least once at every level—and we asked states whether their assessments follow those principles.

We first asked each state if it has, or will have, an assessment system to measure whether students are meeting the standards. To receive credit, states must have (or plan to have) assessments that are linked to their standards, and they must assess (or plan to assess) all students in every district in the state. Some states monitor student progress by testing samples of students in each district. This sampling method may be useful for holding the system accountable, and for determining how effective districts or schools are in getting students to meet the standards. It is not effective for ensuring that every *student is meeting the state standards.* The state cannot measure the progress of *all* students unless it tests every student in the state. Furthermore, states that test all students are in a much better position to take the next essential step—making student achievement count.

We then asked if the states aligned their assessments with the standards in the four core subjects. When states set standards in the core subjects but only assess students in some of them, the message sent is that only certain subjects are important enough to measure and to learn. There is no better way to diminish the importance of state science standards, for example, than to say progress toward the standards won't be measured. All core subjects need to be assessed statewide if raising student achievement in these subjects is the primary goal.

For an assessment system to be most effective, students should be tested in each of the core subjects at least once at each level. This will help teachers and others monitor student progress through the grades. States that only assess students in one grade span, high school for example, are not providing elementary and middle school teachers and parents with the information they need to be sure students are on track to achieving the standards.

We understand the costs and complexities involved in developing assessments, and consequently the need, in some states, to begin with a few subjects and phase in assessments in the other subjects or other grades over time. That is why we give credit to states that *plan* to develop assessments in the future—but credit is given only if the proper authority in the state has signed off on that plan. In other words, the state official or state body with final authority—be it the legislature, board of education, governor, or superintendent—has determined that assessments will be developed in certain subjects and grades. If the decision is still pending in the legislature or elsewhere, we do not give formal credit, but we do mention that the issue is being considered by the state.

States are working to develop challenging standards for their students, but many use norm-referenced, commercially developed standardized tests to measure student achievement of the standards. Some states have engaged in fairly elaborate exercises to determine that these tests are aligned to their standards. Other states have relied on the testing companies to tell *them.* We do give credit to states

that make these claims, but in our view, simply choosing an off-the-shelf test that "best reflects" the state standards does not ensure that the more challenging aspects of the standards will be measured or taught in the schools.

Furthermore, while we cannot speak for all commercially produced assessments in all subjects, our concerns about the rigor of current tests are reinforced by the findings of a recent AFT report that looks at commercially developed eighth-grade math achievement tests. Analyses conducted by a panel of discipline experts found that the most commonly used eighth-grade math tests assess low-level content and difficulty, and do not test high-end performance. These tests require U.S. eighth graders to master content comprising mostly basic arithmetic and measurement, with the vast majority of test items deemed "easy" by our panel.

States' efforts to develop more challenging standards are meant ultimately to promote the development of more demanding curricula and to increase student learning and achievement. Because teachers tend to provide the kind of instruction that prepares students for the level and the mathematics content tested, however, we are concerned that the fundamental intentions of higher standards will be subverted by using assessments that reflect low expectations for students.

Making Standards Count

Extra Help and Incentives for Students

Developing challenging standards and assessments is only one in a number of steps to take to improve the education our children receive. The more important question, and it is one that teachers and other school staff ask repeatedly, is what happens to students who are not meeting the standards?

This question has two essential parts. First, is there a system for identifying students who aren't meeting the standards and providing these students with the supports and help they need to achieve? And second, are there incentives for students to work hard and meet the standards or consequences for those who don't? In other words, will promotion from grade to grade or earning a high school diploma be dependent on meeting the state standards?

Issue 1: Does or will the state require and fund extra help for students having difficulty meeting the standards?

For high expectations to have an impact on achievement, there must be a system in place for detecting which students are struggling to meet the standards and for providing them with extra help before they fall too far behind. Extra help or "academic intervention" can come in a variety of forms, including one-on-one instruction during school hours, after-school tutoring, Saturday school, and summer school.

No matter how intervention and remedial programs are structured, a few things are absolutely crucial. First, they should be clearly tied to the publicly disseminated standards, so that everyone—teachers, administrators, students, and parents—understands when extra help is warranted. Second, the responsibility for detecting when students are falling behind should be shared by the state, districts, schools, and teachers—it is not manageable for teachers to handle alone. That is one of the purposes of developing state assessments based on the standards. In some cases, district- and school-level assessments can also help fill in the gaps (i.e., grades in which the state assessments are not given). Third, the responsibility for providing intervention and remedial services should be a shared one—it cannot rest solely on the shoulders of individual teachers or other school staff. There must be a state- and/or district-wide system for providing low-achieving students with the extra resources and attention they need.

How We Made Our Judgment

We were interested in finding out which states require extra academic assistance for students struggling to meet the state standards. We asked this question of state officials, emphasizing that merely "encouraging" schools and districts to do this isn't enough. We only give credit to states that both require extra help and provide funds/resources for districts and schools to carry this out. As with the assessment question, we give credit here to states that plan to require intervention in the future, but only if the proper state authority (e.g., legislature, state board, superintendent) has officially sanctioned the intervention and funding. We also try to be very clear about which subjects and which grade levels are specified in a state's intervention system. What we haven't done here is analyze the quality or

timeliness of the intervention programs states and districts have in place.

Issue 2: Does or will the state require districts and schools to make student promotion decisions based, in part, on state assessment results?

Many teachers encounter intense pressure from parents and administrators not to fail or "hold back" students, even if they have not mastered the material for a particular grade. Often teachers themselves believe it is unfair to hold their students back when students in other classes or schools who have learned less are passed on to the next grade. Promoting students who haven't mastered the material sends students a terrible message: They can get by without working hard or learning very much. This doesn't hold true in the real world, and most youngsters find that out the hard way.

For students to work hard and put maximum effort into meeting high standards, students have to see that achievement counts. Simply putting high standards in front of youngsters won't motivate them to spend more time on their school work. If students understand that meeting the standards is a requirement for being promoted to certain grades and, ultimately, for getting their high school diploma, they will take the standards and assessments much more seriously. Without these types of stakes, many youngsters probably won't pay much attention to higher standards, and the burden for motivating these students will fall completely on teachers and other school employees.

How We Made Our Judgment

We asked officials if promotion to certain grade levels is or will be tied, in part, to standards and/or assessments. As in the previous question, it isn't enough for a state merely to encourage districts and schools to do this. To get credit, the state must require that meeting the publicly disseminated standards is one of the factors considered for student promotion into certain grades. We give credit to states that plan to implement such promotion policies in the future, but only if the proper state authority has authorized that idea. We also try to provide information as to which subjects and grades the promotion rules apply.

Issue 3: Does the state have graduation exams linked to the standards that all students must pass to graduate from high school?

Another important way to make standards count for students is to tie the high school diploma to achievement of the standards. In our report, we asked which states require or will require students to meet high standards to graduate.

How We Made Our Judgment

We do not give credit to states with "minimum competency" exit exams, that is, tests based on standards below a 10th-grade level. We only give credit to states that require (or plan to require) students to pass assessments linked to 10th-grade standards or above. This does not mean that the test is *given* in 10th grade, rather that the academic expectations the test is based on must be set at a 10th-grade level or higher. A 10th-grade minimum standard does not imply that this is the highest standard we should expect students to meet; rather, it is the lowest acceptable standard to which students should be held.

For those states with graduation exams, we asked which subjects they cover. In our view, states that require students to pass exams in only one or two subjects are not ensuring that their children will receive a well-rounded academic education. We feel it is important for youngsters to be competent in all four core subjects. As with the previous issues, we give credit to states that plan to put in place graduation exams in the future, but only if the proper state authority has signed off on it.

Several states also developed incentives to encourage students to achieve beyond the minimum expectations required for a high school diploma. "Advanced diplomas" and incentives for college (course credit, tuition stipends, guaranteed admission) allow states to set even higher standards for students to pursue. These incentives may be earned by reaching a certain score on the high school exit exam, by completing and earning high grades in advanced courses, and/or by passing additional exams based on a higher standard. Regardless of its structure, when coupled with high exit standards, an advanced diploma and/or assistance for college expenses should help ensure that all students are challenged and motivated in high school. In the *State-by-State Analysis* section, we include information on those states with incentive systems in place or under development.

II. Major Findings

Standards

1. States' commitment to standards-based reform remains strong. The District of Columbia, Puerto Rico, and every state except Iowa have set or are setting common academic standards for students.

States deserve recognition for their sustained commitment to developing common, challenging standards to serve as the basis for systemic education reform. And states are clearly serious about working to ensure that all their children are exposed to challenging curricula in English, math, science, and social studies. Of the states developing standards, all but one—Rhode Island—have or are developing standards in each of the four core subjects.

2. The overall quality of the state standards continues to improve. Despite the AFT "raising the bar" on what constitutes quality standards, 19 states—up two from 1997—have standards that are generally clear and specific and grounded in particular content to meet AFT's common core criterion.

This is good news for states. The first step toward successful systemic reform is developing standards capable of supporting the reforms built around them. Many states, however, still do not have standards that satisfy our common core criterion's requirements for clarity, specificity, and being firmly grounded in content. And many states having generally strong standards still can benefit from some fine-tuning. Considering this need to rework the standards, it is encouraging to note that many states seem to view standards-setting as a work in

Table 2
Which standards at each level in each subject are clear, specific, and grounded in content?

	ENGLISH			MATH			SCIENCE			SOCIAL STUDIES		
	Elem	Middle	HSch	Elem	Middle	HSch	Elem	Middle	HSch	Elem	Middle	HSch
Alabama			✔	✔	✔	✔	✔	✔		✔	✔	✔
Alaska				✔	✔	✔	Under Development			Under Development		
Arizona	✔	✔	✔	✔	✔	✔	✔	✔	✔	Under Development		
Arkansas	Under Development			Under Development				✔	✔			
California	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Colorado		✔	✔				✔	✔	✔			
Connecticut				✔	✔	✔	✔	✔	✔			
Delaware	✔	✔		✔	✔	✔	✔	✔	✔			
D.C.	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔
Florida	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔
Georgia	✔	✔	✔	✔	✔	✔	✔	✔	✔			✔
Hawaii					✔							
Idaho	✔	✔				✔			✔			
Illinois				✔	✔		✔	✔	✔			
Indiana				✔	✔	✔	✔	✔	✔			
Iowa	No Standards			No Standards			No Standards			No Standards		
Kansas	✔	✔	✔	✔	✔	✔	Under Development			Under Development		
Kentucky	✔			✔	✔	✔	✔	✔	✔		✔	
Louisiana				✔	✔	✔		✔	✔			
Maine		✔	✔	✔			✔	✔	✔			
Maryland	✔			✔	✔	✔	✔		✔	✔	✔	✔
Massachusetts	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔
Michigan				✔	✔	✔	✔	✔	✔			
Minnesota				✔	✔	✔						
Mississippi				✔	✔	✔	✔	✔				
Missouri							✔	✔	✔			

	ENGLISH			MATH			SCIENCE			SOCIAL STUDIES		
	Elem	Middle	HSch	Elem	Middle	HSch	Elem	Middle	HSch	Elem	Middle	HSch
Montana	Under Development						Under Development			Under Development		
Nebraska	✔	✔		✔	✔	✔	✔	✔	✔		✔	✔
Nevada	✔	✔	✔	✔	✔	✔		✔	✔	Under Development		
New Hampshire		✔		✔	✔	✔	✔	✔	✔		✔	✔
New Jersey				✔	✔	✔	✔	✔	✔			
New Mexico	✔	✔	✔	✔	✔	✔	✔	✔	✔			
New York	✔	✔	✔	✔	✔	✔		✔	✔	✔	✔	✔
North Carolina	✔			✔	✔	✔	✔	✔	✔			✔
North Dakota				✔	✔	✔						
Ohio	✔	✔	✔	✔	✔	✔	✔	✔	✔			
Oklahoma												
Oregon		✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Pennsylvania	✔	✔	✔	✔	✔	✔	✔	✔	✔	Under Development		
Puerto Rico				✔	✔	✔	✔	✔	✔			
Rhode Island							✔	✔	✔	No Standards		
South Carolina	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔
South Dakota		✔	✔	✔	✔	✔	✔	✔	✔	✔		✔
Tennessee								✔				
Texas	✔		✔	✔	✔	✔	✔	✔				
Utah	✔	✔		✔	✔	✔	✔	✔	✔			
Vermont												
Virginia	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔	✔
Washington	✔			✔	✔		✔	✔	✔			
West Virginia	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	
Wisconsin	✔	✔	✔	✔	✔	✔						
Wyoming				✔	✔	✔	Under Development			Under Development		
TOTALS	**25**	**25**	**22**	**41**	**41**	**39**	**35**	**39**	**36**	**8**	**13**	**15**

progress. Since 1997, 34 states have developed new or revised standards—or additional documents that clarify their standards.

3. Although standards have improved in many states, most states have more difficulty setting clear and specific standards in English and social studies than in math and science.

The overall weakness of the social studies and English standards may be due to the controversy surrounding efforts to develop national standards in these subjects by the subject-area professional associations. The national history standards developed by the National Center for History in the Schools, and the English standards prepared by the National Council of Teachers of English were both widely criticized when first released. The history standards were substantially revised in response to the concerns, but the English standards were not. The math and science standards, developed by the National Council of Teachers of Mathematics and the National Research Council, respectively, are more widely accepted in the field and are cited much more often in state standards documents than are the English or history standards.

■ Sixteen states have English standards that meet

Table 3
Assessment Programs

	The state has or will have an assessment system	The state assessments are or will be aligned with the standards	The aligned state assessments are or will be given in the four core areas	The aligned state assessments are or will be given in the four core areas at least once at each level
Alabama	✔	✔	✔	✔
Alaska	✔	✔		
Arizona	✔	✔		
Arkansas	✔	✔	✔	
California	✔	✔	✔	✔
Colorado	✔	✔		
Connecticut	✔	✔		
Delaware	✔	✔	✔	✔
D.C.	✔			
Florida	✔	✔		
Georgia	✔	✔	✔	
Hawaii	✔	✔	✔	
Idaho	✔			
Illinois	✔	✔	✔	✔
Indiana	✔	✔		
Iowa				
Kansas	✔	✔	✔	
Kentucky	✔	✔	✔	✔
Louisiana	✔	✔	✔	✔
Maine	✔	✔	✔	✔
Maryland	✔	✔	✔	✔
Massachusetts	✔	✔	✔	✔
Michigan	✔	✔	✔	
Minnesota	✔	✔	✔	✔
Mississippi	✔	✔	✔	
Missouri	✔	✔	✔	✔

the AFT criteria at all three levels. Of particular importance, 17 of the states that do not meet our criteria fail to provide specific guidance on the basic knowledge and skills students should learn at the elementary level to develop into proficient readers.

- Math standards in 38 states are generally clear, specific, and grounded in content across all three levels. In fact, 41 states meet our criteria at the elementary and middle levels, but this number drops to 39 at the high school level.
- In science, 30 states meet the AFT criteria at all three levels. Thirty-five states have clear and specific science standards at the elementary level, 39 at the middle level, and 36 at the high school level.
- Social studies standards are particularly weak across the states; these standards tend to lack specific references to U.S. and/or world history. Only *six* states have social studies standards that are clear, specific, and grounded in content across all three levels of schooling. Standards tend to be clearest and most specific at the high school level—15 states meet the criteria. Thirteen states are clear and specific at the middle level compared to just eight at the elementary level.

	The state has or will have an assessment system	The state assessments are or will be aligned with the standards	The aligned state assessments are or will be given in the four core areas	The aligned state assessments are or will be given in the four core areas at least once at each level
Montana	✔			
Nebraska	✔			
Nevada	✔	✔		
New Hampshire	✔	✔	✔	
New Jersey	✔	✔	✔	✔
New Mexico	✔	✔	✔	✔
New York	✔	✔	✔	✔
North Carolina	✔	✔	✔	
North Dakota	✔	✔	✔	✔
Ohio	✔	✔	✔	✔
Oklahoma	✔	✔	✔	✔
Oregon	✔	✔	✔	✔
Pennsylvania	✔	✔		
Puerto Rico	✔	✔	✔	✔
Rhode Island	✔	✔		
South Carolina	✔	✔	✔	✔
South Dakota	✔	✔	✔	✔
Tennessee	✔	✔		
Texas	✔	✔	✔	
Utah	✔	✔		
Vermont	✔	✔	✔	
Virginia	✔	✔	✔	✔
Washington	✔	✔	✔	
West Virginia	✔	✔	✔	✔
Wisconsin	✔	✔	✔	
Wyoming	✔	✔		
TOTALS	**51**	**47**	**35**	**23**

Assessments

1. The majority of states are committed to measuring student achievement toward the standards.

The alignment of standards, curricula, and assessments is an important step in systemic reform. Many states (27) rely on commercially developed standardized tests to measure and report on student achievement, and some (8) claim alignment of their standards with the assessments. But as states develop their own standards, many are turning away from the traditional standardized tests and are developing new assessments to measure their standards. Indeed, today, 46 states and Puerto Rico have or will have state assessments based on the state standards in at least one of the four core subject areas; 35 have or will have aligned assessments in all four core subjects; and 23 states have or are planning to test all students at all three levels in the four core subjects.

2. Through test items, scoring rubrics, and/or student work samples, many states (19) describe the level of mastery students must demonstrate to meet the state standards.

Students, teachers, and parents are likely to ask, "What does student work that satisfies the standards look like?" Documents that show the level of work expected on the state assessments give students, teachers, and parents valuable insight into the state's expectations for student performance and mastery of the standards.

Making Standards Count

1. Ten states have policies for ending social promotion—the practice of passing students from grade to grade regardless of whether they have mastered the standards. And seven of those states link their promotion policy to the standards.

The long-term consequences of moving from grade to grade despite having failed to learn will eventually catch up with students and hinder future success in school and in life. Social promotion diminishes the incentive for students to work hard and ultimately compromises the effectiveness of a system based on standards. If students observe that they can pass from one grade to the next despite their failure to satisfy the standards, the value of the standards and all related components is degraded. The rising number of states that link promotion to achievement of the standards represents a growing awareness of social promotion as a damaging, deceptive practice. Now, 10 states have or will have a promotion policy, but only seven base their promotion policies on the standards.

2. More states (24) have or will have high school exit exams based on the standards as compared to last year (20). And more states with "minimum competency" exit exams are "upgrading" these tests to reflect 10th-grade standards or higher.

Graduation exams are the most common way for states to hold students accountable for learning. This year, 24 states have committed to link their high school diploma to achievement of the standards in at least one subject area, and 13 of those states based their assessment on at least 10th-grade standards. Furthermore, 10—up from eight in 1997—of those 13 states measure student performance in all four core subjects.

Table 4
Promotion Policies

	The state has or will have a promotion policy	The state's promotion policy is or will be based on the standards	The state's promotion policy is or will be based on the standards in the four core subjects
Arkansas	✔		
California	✔	✔	
Delaware	✔	✔	
D.C.	✔		
Florida	✔	✔	
Louisiana	✔	✔	
North Carolina	✔	✔	✔
Ohio	✔	✔	
Virginia	✔	✔	✔
Wisconsin	✔		
TOTALS	**10**	**7**	**2**

Table 5
Exit Exams

	State has or will have exit exams that all students must pass to graduate	The exit exams are or will be based on the standards	The exit exams are or will be based on the 10th-grade standards or higher	The exit exams are or will be based on 10th-grade standards or higher in the four core subjects
Alabama	✔	✔	✔	✔
Alaska	✔	✔	✔	
Arizona	✔	✔	✔	
Delaware	✔	✔		
Florida	✔			
Georgia	✔	✔	✔	✔
Hawaii	✔	✔		
Indiana	✔	✔		
Louisiana	✔	✔	✔	✔
Maryland	✔	✔		
Massachusetts	✔	✔	✔	✔
Minnesota	✔	✔		
Mississippi	✔	✔		
Nevada	✔	✔	✔	
New Jersey	✔	✔	✔	✔
New Mexico	✔	✔	✔	✔
New York	✔	✔		
North Carolina	✔	✔		
Ohio	✔	✔	✔	✔
South Carolina	✔	✔	✔	✔
Tennessee	✔	✔		
Texas	✔	✔		
Virginia	✔	✔		
Washington	✔	✔	✔	✔
Wisconsin	✔	✔	✔	✔
TOTALS	**25**	**24**	**13**	**10**

3. Twenty states have or are developing incentives (advanced diplomas, free college tuition) to motivate students to achieve a higher standard than that required of all students.

Policies that link promotion and graduation to meeting the standards reinforce their importance and can effectively motivate students to work hard. In addition, many states are offering a variety of incentives to encourage students to surpass the expectations set by the standards.

- Nineteen states have or will have advanced diplomas for students who reach a higher standard than the minimum required for graduation.
- Five states offer college admissions, free tuition, and/or stipends to students who meet a higher standard on state assessments and/or who take advanced courses such as Advanced Placement and International Baccalaureate courses.

4. Since our 1997 report, 20 states, an increase of seven, require and fund academic intervention programs for students who are struggling to meet the standards, but still less than half of the states have intervention programs in place.

To help all students reach high standards, schools must identify those students who are having

trouble meeting the standards, and give them the extra help they need to succeed. Early intervention can prevent problems from snowballing and represents a more promising option for addressing underachievement than either retention or social promotion. Targeted assistance programs can take a variety of forms—after school tutoring, one-on-one tutoring, and Saturday school to name a few—but whatever the form, intervention must reach struggling students early, before they fall too far behind. Identifying and providing intervention to underachieving students can be an expensive undertaking and should be shared by the state.

- Although 34 states require districts to provide intervention to students who are struggling, only 21 provide funding to districts earmarked specifically for intervention. Of the 21 states, 20 have intervention programs aligned with the standards. Furthermore, while the state may provide intervention, in some instances that intervention may not begin early enough. For example, New York does not fund intervention before the fourth grade, even though students may be falling behind in the earlier grades.
- When we asked states the specific subjects and grades they target for intervention, we found that only 10 states provide extra academic help in all four core subjects and only five of them provide help in the four core subjects at each of the three levels.

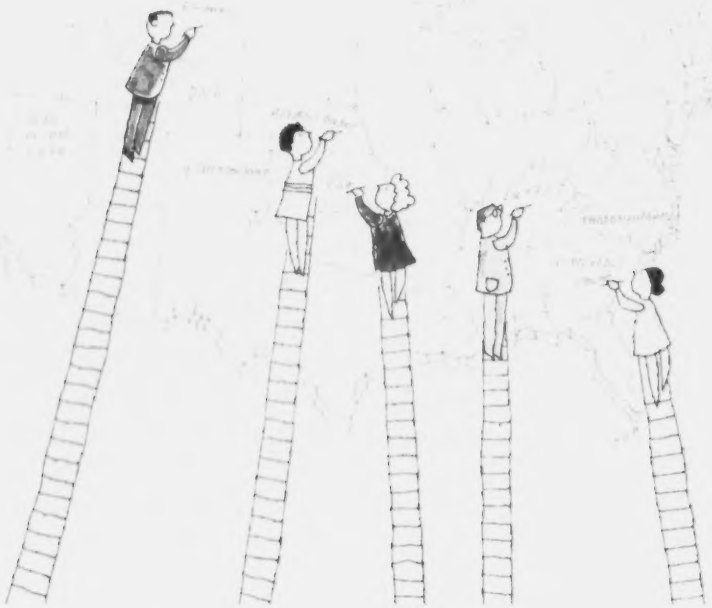
Table 6
Incentives for Students to Reach Even Higher Standards

	Advanced Diplomas	College Incentives—Admissions Tuition Stipends
Alabama	✔	
California	✔	
Connecticut	✔	
Georgia	✔	✔
Hawaii	✔	
Illinois	✔	
Kentucky	✔	
Louisiana		✔
Massachusetts	✔	
Maryland	✔	
Minnesota	✔	
Missouri	✔	
New York	✔	
Ohio	✔	✔
Oregon	✔	✔
Pennsylvania	✔	
South Carolina	✔	✔
Texas	✔	
Virginia	✔	
West Virginia	✔	
TOTALS	**19**	**5**

Table 7
Intervention Programs

	State requires or will require intervention	State requires or will require and fund intervention	Intervention is or will be required, funded, and based on the standards	Intervention is or will be required, funded, and based on the standards in the four core areas	Intervention in the four core areas is or will be required and funded at each level
Alabama	✔	✔	✔	✔	✔
Arkansas	✔	✔	✔	✔	
Colorado	✔	✔	✔		
Delaware	✔	✔	✔		
D.C.	✔	✔			
Florida	✔	✔	✔		
Georgia	✔	✔	✔		
Hawaii	✔	✔	✔	✔	
Illinois	✔				
Indiana	✔	✔	✔		
Kansas	✔				
Kentucky	✔	✔	✔	✔	✔
Louisiana	✔	✔	✔	✔	✔
Maryland	✔	✔	✔		
Michigan	✔				
Minnesota	✔	✔	✔		
Nevada	✔				
New Jersey	✔				
New Mexico	✔				
New York	✔	✔	✔	✔	
North Carolina	✔				
Ohio	✔				
Oklahoma	✔	✔	✔		
Oregon	✔				
Pennsylvania	✔				
South Carolina	✔	✔	✔	✔	✔
Texas	✔	✔	✔	✔	
Utah	✔				
Vermont	✔	✔	✔	✔	✔
Virginia	✔	✔	✔	✔	
Washington	✔	✔	✔		
West Virginia	✔	✔	✔		
Wisconsin	✔				
Wyoming	✔				
TOTALS	**34**	**21**	**20**	**10**	**5**

III. Recommendations



1. States need to improve their attention to the reading basics at the elementary level, especially in the primary grades (K-3), to include specific guidance on the basic knowledge and skills students should learn to develop into proficient readers.

Most of the students who are retained, assigned to special education, or are given long-term intervention services are poor readers. If we hope to improve student achievement, we must ensure that all students learn to read with accuracy and comprehension in the early elementary grades. State standards must specify the basic reading knowledge and skills students need to become proficient readers. Clear expectations allow teachers and parents to monitor the progress of students and to provide intervention as soon as the student starts having difficulties.

2. Social studies standards need to be focused and explicit about the U.S. and world history students should learn at each of the three educational levels.

In 1988, the Bradley Commission issued a set of guidelines for teaching history. The commission urged states and districts to devote more curricular time to the study of history and to begin history-centered study in the primary grades. During the 1989 Education Summit, the governors and former President Bush named history as one of the disciplines that form an academic core curriculum. Our analysis of state standards, however, indicates that a decade later, few states have heeded the call of the commission and the summit leaders. Most standards exhibit an alarming dearth of specific U.S. and world historical content, especially at the elementary level, but also in the upper levels. And the 1994 NAEP assessment of history results show that,

for the nation as a whole, few students exhibit mastery of grade-level knowledge and skills.

A firm knowledge of history—both U.S. and world—is a vital component of active and informed citizenship. Our American society has a diverse cultural heritage, but the common bond among our citizenry is our democratic inheritance. Study of U.S. history nurtures an essential understanding of our common democratic heritage, and study of the world provides insight into the roots of our American democracy. Moreover, if we intend to educate students to become citizens capable of exercising mature political judgment, students need to recognize and accept their responsibility for preserving and extending our democracy. World history can help students understand what it takes to foster and preserve democracy. Learning about places and people who live under different systems of government can help students appreciate the value of life in a democratic nation as well as promote a desire to protect our system of government.

3. Standards development is a continual process. Standards need to be revisited and revised as states delve deeper into standards-based curriculum development, aligned assessments, and standards-based professional development.

In past editions of *Making Standards Matter*, we have urged states to continually engage in revising and improving their standards documents. The entire system of standards-based reform—including curriculum, assessments, professional development, textbooks, and accountability measures—is dependent upon high-quality academic standards. In this foundational role, standards must be solid enough to support the structures built upon them. In 1995, several states led the country with standards that were the clearest and most specific at that time. During the past four years, many states have written standards using the documents we highlighted in 1995 as a foundation and have improved upon them. As a result, standards today are significantly stronger than in years past. States that have not revised their standards or produced any supplemental documents since 1995 should consider revisiting their standards documents for clarity and specificity, including reviewing the documents of states that have developed strong standards over the past several years.

States striving to improve their standards should be aware of the assistance available through Achieve—a national, independent, non-governmental entity created in the aftermath of the 1996 National Education Summit. Achieve is a national clearinghouse on standards-based reform that reports on standards-setting efforts across the states, and helps summit participants carry out their commitments. Among the resources Achieve provides are a national database, confidential benchmarking, and an annual review of state progress in standards-based reform.

The heart of the clearinghouse is Achieve's online, searchable database of state content standards. Ultimately, the database will contain standards from all states for all subjects, international standards, and samples of student work. Achieve also offers states that request assistance a confidential review and analysis of their standards, assessments, accountability systems, and uses of technology as well as providing them with comparisons to other states and other countries.

4. More work needs to be done on aligning assessments to the standards and in describing what adequate performance on the standards looks like.

Students across the country are required to meet their state's standards. Student attainment of the standards will be assessed, and in many cases there will be serious consequences for students who do not reach the standards. Teachers and parents need to know what adequate performance looks like in relation to the standards at each benchmarked grade or cluster if they are to be effective in helping students to meet the standards. Examples of student work will make the standards more meaningful and accessible to teachers, parents, and students.

We applaud states that have developed additional materials describing the level of work expected on the state assessments. Many of these documents provide sample test items, scoring rubrics, and/or examples of student work. The sample test items provide an idea of the level of knowledge and skills expected of students on multiple choice, open-ended reply, essay, and other forms of questions. Scoring rubrics further describe essential elements that should be reflected in student work at different levels of mastery, distinguishing among levels of work that are unacceptable, acceptable, and that

exceed expectations. Samples of student work illustrate different levels of mastery, supplying students, teachers, and parents with concrete examples of how good is good enough.

5. All teachers and other stakeholders must have easy access to the standards and the full complement of clarifying documents and supplemental materials that states develop to illustrate the standards.

Ideally, standards documents should be clear and specific on their own without needing a variety of supplemental materials to clarify the content and skills students should learn. We have found, however, that in many states this is not the case. We commend the states that clarify the standards through supplemental documents. For the standards to make a difference, however, teachers and parents must have access to them. It is not enough to send a single copy of the materials to the district office or to each school. We realize it can be an expensive undertaking to send copies to all teachers, but it is imperative that states ensure the accessibility of materials. One option many states use is to provide broad access to standards materials on the internet.

6. As more states implement "high stakes" policies based on the standards, programs must be in place to identify struggling students early in their school careers and to provide them with targeted academic assistance.

For high expectations to have an impact on achievement, there must be a system in place for detecting which students are struggling to meet the standards and for providing them with extra help before they fall too far behind. And with high stakes policies linking achievement of the standards to serious consequences (e.g., earning a high school diploma), students' future success in life depends largely on their ability to meet the standards. A key goal of establishing clear academic standards, and using aligned assessments to measure student attainment of the standards, is to ensure that any difficulties are caught early and corrected. Waiting until a problem is full-blown is not an acceptable approach to intervention, and will result in older students with years of cumulative failure. While remediating an older student who has been struggling for years is not impossible, it is much more difficult. To realize the goal of all students meeting the same high standards, states and districts must emphasize early detection of problems and speedy, targeted assistance to remedy academic underachievement.

IV. State-by-State Analysis

This section reports on state standards, assessments, incentives, and intervention programs. Our review of the standards includes carefully selected examples of each state's standards. We recognize that choosing a few standards may mean that certain strengths or weaknesses are overemphasized, however, we believe that the examples selected are illustrative and representative of the standards overall.

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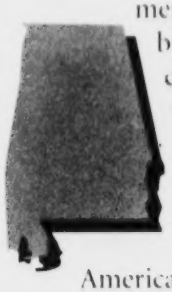
Alabama



Standards: Alabama's standards in the four core subjects are described in the *Course of Study* documents. The high school level is organized by courses. Although students can choose some of the courses they take, all students must meet the standards found in English 9, 10, 11, and 12; algebra I; geometry; biology; world history; U.S. history—pre-discovery to 1900; modern America 1900–present; American government; and principles of economics courses.

The grade-by-grade **English** standards for reading are not specific at the elementary or middle levels because many of the standards are repeated from grade to grade. The elementary level also lacks specific writing conventions. It is very important for standards to provide explicit guidance on the basic knowledge and skills students must learn if they are to develop into proficient readers and writers. Alabama's standards fail to provide this necessary guidance. A typical reading standard, "...create meaning [through]...cues provided by print. Examples: semantic (context clues); syntactic (word patterns); [and] grapho/phonemic (sound-symbol relationships)," is generally specific, but, it is simply repeated from grade to grade. What does this standard mean to a first-grade teacher versus a third-grade teacher? First- and third-grade students are at very different developmental levels, but the standards do not reflect any difference in expectations. Some of the reading comprehension could be strengthened if the content were more specific. For example, eighth graders need to "distinguish various forms of literature according to characteristics." What are some of the "characteristics" students should know to meet this standard? The seventh-grade *Direct Assessment of Writing* and the *Standards and Objectives for Alabama High School Graduation Exam* supplement the writing standards by including specific content on writing mechanics, which clarify the expectations for students in grades 7 through 12. High school students, for instance, are expected to edit writing by "correct[ing] run-on sentences, sentence fragments, and comma splices." It is not clear, however, if teachers, parents, and students have access to these supplemental documents.

The **math** standards are very clear and specific about what students should know and be able to do. Third-grade students, for instance, should be able to "illustrate that addition and subtraction are inverse operations. Example: 8 + 9 = 17 and 9 + 8 = 17; therefore, 17 - 8 = 9 and 17 - 9 = 8." And seventh graders can "describe relationship between pairs of angles: adjacent, vertical, complementary, supplementary." The document also highlights the standards that students will be expected to meet on the state assessment and includes sample problems to illustrate how the standards might look in a classroom.

The **science** standards are clear and specific at all three levels. For example, fourth graders should be able to "describe the geographic features on the ocean floor [including]: valley, trench, ocean ridge, mountain, continental shelf, continental slope." At the high school level, the standards and the *Standards and Objectives for Alabama High School Graduation Exam* include specific life and physical science standards that all students must meet to graduate from high school. There are, however, no common earth science standards that all students need to meet. It is also not clear if teachers, parents, and students have access to this supplemental document.

This year, Alabama developed new **social studies** standards and added civics to the elementary level. The U.S. and world history standards are not clear and specific until the fourth grade, but the history is more explicit than the standards reviewed last year. A strong U.S. history example expects fifth graders to "describe efforts of groups in the American colonies to mobilize support for independence from England. Examples: Minutemen, Committee of Correspondence, Sons of Liberty, First Continental Congress." A unique feature to the elementary standards is the inclusion of suggested grade-appropriate historical literature. For the above standard, *The Ride of Paul Revere* by Henry W. Longfellow is recommended. Both the middle and high school levels are clear, specific, and grounded solidly in U.S. and world history. In 11th grade, for example, students: "Investigate America's rejection of world leadership following World War I...[including]: Woodrow Wilson's administration; League of Nations; Republican political philosophy; Conservatism under the Harding and Coolidge administrations." It is important to note that at times, the standards

pay little attention to what students are supposed to do with this detailed content. What students need to do with the content knowledge is just as important as the need for the content to be clear and specific.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague reading basics and writing conventions	Vague reading basics	✔
Math	✔	✔	✔
Science	✔	✔	No common earth science standards
Social Studies	✔	✔	✔

Assessments: Alabama currently administers the Stanford Achievement Test in grades 3 through 11 in the four core subjects. According to state officials, this commercially developed test has a high percentage of overlap with the state standards. The state also administers state-developed tests based on the standards in writing in grades 5 and 7 and in reading, language, and math in grade 11. To help describe the state assessments, Alabama has developed *Direct Assessment of Writing: Annotated Student Response Packets.* The packets include test items, scoring rubrics, and examples of student work that teachers, parents, and students may find useful for understanding the type of work expected on the state assessments.

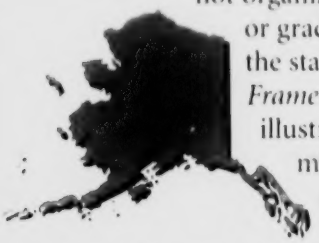
Beginning in fall 1999, Alabama will administer a kindergarten-readiness test to all kindergarten students and diagnostic reading tests to all first and second graders. In spring 2000, there will be new 11th-grade exams in the four core subjects. All of these assessments will be based on the state standards.

Incentives: To graduate from high school, all students must pass the high school exit exams in reading, language, and math. The exams are first taken in the 11th grade, but are based on the eighth- and ninth-grade standards. Students who pass the exit exams and certain advanced courses receive an advanced diploma.

Beginning in spring 2000, Alabama will administer new exit exams in the four core subjects. The new tests will continue to be given in the 11th grade and will be based on the 11th-grade standards. Students who take advanced courses will receive a diploma with an "advanced academic endorsement."

Interventions: Alabama requires and funds intervention for third- through 11th-grade students who are not meeting the standards in the four core subjects (as measured by the Stanford Achievement Test). The state also requires, but does not fund, extra academic help for students who fail any of the exit exams.

Alaska



Standards: The first broad content standards in the four core subjects that Alaska developed were not organized around specific grades or grade clusters. To complement the standards, the state developed *Frameworks* that include vignettes illustrating how the standards might look in the classroom at each level. Alaska is now implementing standards to clarify the state's broad standards. The new standards will cover the four core subjects, but only reading, writing, and math were available for our review. The state is also defining "proficiency levels" that will include examples of student work expected to reach each of the levels.

The new draft **reading** and **writing** standards added early elementary standards, writing standards, and suggested fiction and nonfiction selections for students to read at each level, which previous drafts lacked. The reading standards are generally clear and specific at the elementary level, but the standards could be even stronger if the content were more explicit. The writing standards, however, are not specific about the writing conventions and forms students should know and be able to use. A typical writing standard asks fourth graders to "use a variety of forms or genres when writing for different audiences." What "forms" should fourth graders learn—plays, poetry, essays? Are there some forms not expected at this grade? The standard is unclear. And at every level students are expected to use language conventions, including "...grammar, sentence construction, paragraph structure, punctuation, spelling, and usage..." There is no indication of the level of sophistication expected at each of the grade levels. How is a teacher or parent to know if a student is writing at a "proficient" or "below basic" level?

The new draft **math** standards are specific and have a good balance of content and skills. For instance, fourth-grade students should "find equivalent fractions (1/3 = 2/6); convert between fractions and mixed numbers (4/3 = 1 1/3); [and] recognize fractional forms of commonly used decimals."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague writing conventions and forms	Vague reading basics, writing conventions and forms	Vague writing conventions and forms
Math	✔	✔	✔
Science	Currently Under Development		
Social Studies	Currently Under Development		

Assessments: Alaska administers the California Achievement Test in math, reading, and language arts to students in grades 4 and 8. The state also administers a state-developed writing test in grades 5, 7, and 10 that is based on the standards.

Beginning in March 1999, the state will field-test reading, writing, and math assessments for grades 3, 6, 8, and high school based on the state standards. The tests will be in place in spring 2000.

Incentives: Beginning in 2002, to graduate from high school, all students will have to pass the "High School Qualifying Examination," an assessment of reading, writing, and math. According to state officials, these assessments will be based on the "exit-level" standards.

Interventions: Alaska does not require districts to provide intervention to *students* having difficulty meeting the standards. Beginning in 2000, *schools* will be identified for intervention if their students are not making "adequate progress."

Arizona

Standards: Arizona recently approved standards in language arts, math, and science. The social studies standards are currently under development and officials plan to finalize them next year. No drafts were available for review.

The **language arts** standards are generally clear and specific about the content and skills all students are expected to learn. Elementary students, for instance, need to "analyze selections of fiction, nonfiction, and poetry…distinguish the main characters from the minor characters; summarize the plot line to include cause and effect." And, high school students should be able to "use transitions (e.g., conjunctive adverbs, coordinating conjunctions, subordinating conjunctions) where appropriate." The new document includes a helpful glossary that defines and clarifies the terms used in the standards.

The **math** standards are generally clear and specific across all three levels. Examples at the middle level include: "Find the mean, mode, and range of a data set. Choose appropriate measures of central tendencies to describe given or derived data." The document also includes a glossary that defines and explains mathematical concepts and is especially helpful for parents and students who may not be familiar with some of the more advanced mathematical terms.

The **science** standards are also clear and specific. For example, elementary students will be able to "demonstrate and explain that materials exist in different states (solid, liquid, and gas) and can change from one to another." And, high school students should be able to "describe the basic cellular processes of photosynthesis, respiration, protein synthesis, and cell division [and] compare the purpose and process of mitosis with the purpose and process of meiosis."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Currently Under Development		

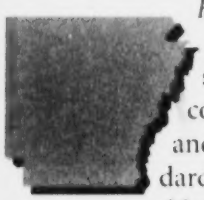
Assessments: Arizona administers the Stanford 9 in English and math in grades 3 through 12. In addition, the state is developing new assessments aligned with the standards in English and math for students in grades 3, 5, 8, and in high school. The high school tests will be in place in spring 1999 and the remaining tests in spring 2000. The state hopes to assess science in the future, but test development has not been approved.

Incentives: Beginning in spring 1999, all students must pass the English and math high school tests to graduate from high school. The tests will first be given in the 10th grade and, according to state officials, will be based on the 12th-grade standards.

Interventions: Arizona does not require districts to provide intervention to students struggling to meet the standards.

Arkansas

Standards: Arkansas' standards in the four core subjects are described in the *Curriculum Frameworks*. The state is writing new English and math frameworks and supplemental documents to clarify the content and provide classroom vignettes and teacher tips for bringing the standards into the class. Drafts were not available for review, but the materials were to be presented for approval in early November 1998. Because new English and math standards are pending approval, this review is limited to science and social studies. (The state plans to revise the science standards in 1999 and social studies in 2000.)



The **science** content and skills at the middle and high school levels are clear and specific. High school students, for instance, should be able to "apply plate tectonic theory to explain the features of the earth's surface and geological phenomena." The elementary level, however, is vague. Typical elementary standards ask students to "explore tools and machines"; and "explore energy changes and transformations." It is not clear what content and skills students at this level need to learn.

The **social studies** standards are also unclear and lack specific references to world or U.S. history. For instance, students in grades 5 through 8 should "know and analyze the interdependence of the present and the past of the state, nation and world." This standard is much too broad to lead to a common core curriculum across a school, let alone a district or state. The civics standards are also unclear. For example, elementary students should "explore rights, responsibilities, and leadership through literature and the arts."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Currently Under Development		
Math	Currently Under Development		
Science	Unclear content	✔	✔
Social Studies	No U.S. or world history; Unclear civics	No U.S. or world history; Unclear civics	No U.S. or world history; Unclear civics

Assessments: Arkansas administers the Stanford 9 in the four core subjects in grades 5, 7, and 10. The state is piloting new state-developed assessments based on the standards in English and math in grades 4, 8, 11, and 12. The 11th- and 12th-grade tests will be in place during the 1998/99 school year. The fourth-grade tests will be administered in 1999 and the eighth-grade tests in 2000. To help describe the 11th-grade assessments, Arkansas developed the document *Setting Standards for the Arkansas Comprehensive Testing and Assessment Program*, which includes test items, scoring rubrics, and examples of student work. Teachers, parents, and students may find this document useful for understanding the type of work expected on the state assessments.

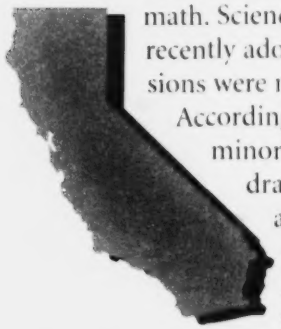
This year, legislation was passed that requires the development of new high school end-of-course exams based on the state standards. These state-developed tests will be given in the spring of 2000 in algebra and geometry, and in the 2000/01 school year in biology and civics/U.S. history. These new tests will replace the current 11th- and 12th-grade state-developed tests and the 10th-grade Stanford 9 tests. The state will also develop 12th-grade reading and writing tests to be given in spring 2000. Finally, the state will develop "gateway exams" for grades K-3. Specific details of the exams have not been finalized, but schools will use the tests to monitor student progress toward the fourth-grade standards, to identify students in need of extra academic assistance, and/or to determine promotion.

Incentives: Students in grades K-3 not performing at grade level, as determined by the district, must pass summer school to be promoted to the next grade.

Interventions: Arkansas requires districts to develop intervention plans for all students performing below grade level in grades K-4. Although the state does encourage intervention in reading and math, it is left to the districts to identify students in need of assistance using their district-level criteria. The state provides funding for summer school programs.

California

Standards: This year California adopted new content standards in language arts and math. Science and social studies were recently adopted, but the adopted versions were not available for review. According to state officials, only minor changes were made to the drafts that were pending approval. The state is also revising its *Curriculum Frameworks* to supplement the standards. Only the math and reading/language arts draft frameworks were available for review.



The new **language arts** standards provide especially strong coverage of reading basics, writing conventions, and reading comprehension. High school students, for instance, should be able to "analyze interactions between main and subordinate characters in literary text (e.g., internal and external conflicts, motivations, relationships, and influences) and how they affect the plot." And, fourth graders need to "combine short, related sentences with appositives, participle phrases, adjectives, adverbs, and preposition phrases." The standards also include a glossary, with clear definitions of the terminology used throughout the standards to help parents and others better understand the concepts.

Although the new state **math** standards in grades 8 through 12 are organized by specific courses that all students are expected to take, they make clear the knowledge students need to learn. Sixth graders, for example, need to "know common estimates of pi (3.14; 22/7) and use these values to estimate and calculate the circumference and the area of circles...." And, high school students need to "know the definition of sine and cosine as y and x coordinates of points on the unit circle."

The new draft **science** standards are also very clear and specific about the content knowledge students are expected to master at each grade. What students should be able to do with this knowledge, however, is not always clear. For example, while third graders need to know that "matter has three forms: solid, liquid, and gas [and that] evaporation and melting are changes that occur when the objects are heated"; it is not clear what students should do with this knowledge. The high school level does a better job balancing the content and skills. For example, "students know how prokaryotic and eukaryotic cells, and viruses, differ in complexity, and how plant and animal cells and bacteria differ in their general structure." This standard goes beyond asking students to memorize facts about "prokaryotic" and "eukaryotic" cells. It also asks students to distinguish the differences between these cells and viruses.

The **social studies** standards are clear, specific, and focused on historical content across each level. Eleventh graders, for instance, should be able to "...analyze the American participation in World War II, in terms of: the origins of American involvement in the war, with an emphasis on the events that precipitated the attack on Pearl Harbor; the major battles of Midway, Normandy, Iwo Jima, Okinawa, and the Battle of the Bulge;...the effect of massive aid given to western Europe under the Marshall Plan to rebuild itself after the war, and its importance to the U.S. economy."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	✔	✔	✔

Assessments: California gives the Stanford 9 test in English and math in grades 2 through 11 and in science and social studies in grades 9 through 11. Once the standards are finalized, the state will align the Stanford 9 with the standards.

Beginning in spring 2000, the state plans to administer state-developed assessments based on the standards in English and math in grades 4, 8, and 10 and in science and social studies in grades 5, 8, and 10. The new assessments will be given to all students, but not all students will be given the same test items to solve. This matrix sampling will not allow for individual test scores to be reported back to the teachers, students, or parents.

Incentives: Recently passed legislation requires that the state board set performance levels based on the Stanford 9 and local school boards adopt promotion and retention policies based on the per-

formance levels. Students will need to achieve at a certain level to advance to the third, fourth, and fifth grades and to the middle and high school levels. The state has not set an implementation date for the policy, but officials expect it to be in place soon.

California has an advanced diploma system that high school students can *choose* to strive for. *Golden State Exams* are offered in algebra I, geometry, government/civics, U.S. history, economics, English/language arts, written composition, biology, chemistry, and coordinated science. Students who take the exams in six subjects and receive high scores earn the "Golden State Merit Diploma." As the State Board adopts the new standards, these exams are being realigned to reflect the high school standards.

Interventions: California does not require districts to provide intervention to students who are having difficulty meeting the standards, but such legislation is currently under discussion.

Colorado

Standards: Colorado has *Model Content Standards* in the four core subjects. The state also developed performance levels for each subject that describe the content and skills students need to reach the different levels. Each district in Colorado has adopted standards that meet or exceed the rigor of the *Model Content Standards*, as required by law.

The **reading** and **writing** standards are clear and specific at the middle and high school levels. Students in grades 5-8, for instance, are expected to use "modifiers, homonyms, and homophones in writing and speaking." The elementary reading basics for grades K-3 are strengthened by the *Rules for the Administration of Colorado Basic Literacy Act*, which includes "reading benchmarks" for the early grades. For example, kindergarten students should be able to: "Hear and repeat initial sounds in words. Know letters in their names. Recognize the difference between lower and upper case letters." It is not clear, however, if teachers, parents, and students have access to this supplemental document. The elementary writing standards are not very specific. K-4 students, for example, should be "organizing their speaking and writing." The standard does not provide guidance on the basic writing knowledge and skills elementary students should learn to become proficient writers.

The **math** standards include some specific content, but in most instances the standards are not clear about what students need to do with the content. At the elementary level, for example, "...what students know and are able to do includes reading and writing whole numbers and knowing place-value concepts and numeration through their relationships to counting, ordering, and grouping." What does it mean to "know place-value concepts...through their relationships to counting"? And at the high school level, "...what [students] know and are able to do includes demonstrating meanings for real numbers, absolute value, and scientific notation using physical materials and technology in problem-solving situations." What is "demonstrating meanings"? Although these standards contain specific content, the application remains unclear.

The **science** standards, the strongest of the four subjects, are clear, specific, and grounded in content across all levels. For example, what students in grades 5-8 should be able to do includes "describing the observable components and functions of a cell (for example, cell membrane, nucleus, cytoplasm, chloroplasts; movement of molecules into and out of cells)." And what students in grades 9-12 should do includes "observing, measuring, and calculating quantities to demonstrate conservation of matter and energy in chemical changes (for example, acid-base, precipitation, oxidation-reduction reactions), and physical interactions of matter (for example, force, work, power)."

The **social studies** standards lack specific world history content and only provide broad references to U.S. history. Vague U.S. history examples include, "describing how military and/or economic expansion resulted in the assumption or seizure of political power throughout history" (grades 5-8); "identifying historical figures from diverse backgrounds in the United States who have advanced the rights of individuals and promoted the common good" (grades K-4); and "describing significant events and people which form the foundation of United States history in the chronological context of the history of the Americas and the world" (grades 5-8). Teachers are given no further guidance about which incidents of military or economic expansion, which individuals, or what events deserve emphasis. The civics standards, however, are solid. For example, in grades K-4, what students are able to do includes "telling or illustrating in students' own words that the Constitution limits the power of the government by saying what it can and cannot do." And what middle level students do includes "identifying the ancient and medieval roots of governmental principles and institutions (for example, Hammurabi's Code, Roman Republicanism, Mosaic Law, Greek Democracy, Islamic Law)."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague writing conventions	✔	✔
Math	Unclear	Unclear	Unclear
Science	✔	✔	✔
Social Studies	No world history; Vague U.S. history	No world history; Vague U.S. history	No world history; Vague U.S. history

Assessments: Colorado administers state-developed third-grade reading and fourth-grade reading and writing tests based on the standards. To help describe the state assessments, Colorado developed the *Colorado Student Assessment Program: Released Passages, Items, & Prompts.* This document includes test items, scoring rubrics, and examples of student work. Teachers, parents, and students may find this document useful for understanding the type of work expected on the state assessments.

The state will administer new state-developed reading and writing tests in grade 7 in spring 1999 and in grade 10 in spring 2001. Math tests will be given in fall 1999 in grade 5, in spring 2000 in grade 8, and in spring 2001 in grade 10. Finally, science will be administered in spring 2000 in grade 8 only. All of these assessments will be based on the standards. The pending legislation does not call for the development of social studies assessments.

Incentives: There are no incentives for students to meet the standards.

Interventions: Beginning in spring 1999, "individual literacy plans" will be required for students not reading at grade level in grades K-3. Students in kindergarten through second grade will be identified for extra help based on their performance toward the state's "reading benchmarks." Students in third grade will be selected for intervention based, in part, on their performance on the state's third-grade reading test. The state will provide funding for the intervention.

Connecticut

Standards: Connecticut's standards in the four core subjects are described in the recently adopted *Curriculum Frameworks.*

The adopted **English** standards add grade clusters, which previous drafts lacked, but fail to provide guidance about the content students should learn, focusing instead on skills. The writing conventions are vaguely stated, and the reading basics are barely addressed across all three levels. The document *Read, Read, Read* clarifies some of the reading basics students should learn in grades K-3. A clear kindergarten reading standard, for example, expects students to be able to use "word analysis skills [and] identify letters of alphabet, upper and lowercase." Because it is important for English standards to provide explicit guidance on what students need to learn to develop into proficient readers, the reading standards could be even stronger if some of the standards were more explicit.

The **math** standards are strengthened with the addition of the assessment handbooks at each level. The combination of these two documents results in a balanced set of expectations. For example, elementary students should "understand our numeration system by modeling, counting, grouping, and using place-value concepts." The handbook clarifies this example by asking students to "solve problems involving place value concepts such as 1 more/less, 10 more/less." And at the high school level students should be able to "understand and explain the need for proportions and percents." It is not clear, however, if teachers and parents have access to these supplemental documents.

The **science** standards, strongest of the four subjects, are clear, specific, and grounded in content at all levels. For example, elementary students should "classify rocks according to a number of attributes, such as color, texture, layering, particle size, and reactions with weak acids (e.g., vinegar)." Another standard asks high school students to "explain that the structure and function of cells depends on proteins, which are made of specific sequences of amino acids coded by DNA, that are unique to each individual."

The **social studies** standards are not clear and contain only vague U.S. and world history references. Consider the following example: "demonstrate an in-depth understanding of major events and trends of United States history (e.g., the American Revolution, the Civil War, industrialization, the Great Depression, the cold war)." Is there particular content regarding these events and trends that students should know?

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague writing conventions	Vague reading basics and writing conventions	Vague writing conventions
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Vague world and U.S. history	Vague world and U.S. history	Vague world and U.S. history

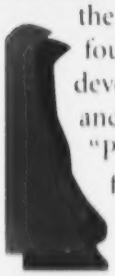
Assessments: Connecticut administers state-developed assessments based on the standards in language arts and math in grades 4, 6, 8, and 10 and in science in grade 10. To help describe the state assessments Connecticut developed the *Connecticut Mastery Test Second Generation Language Arts and Mathematics Handbooks* covering the fourth-, sixth-, and eighth-grade assessments, and the 10th-grade *CAPT Mathematics, Science, and Language Arts Response to Literature and Writing* guides. The documents include test items, scoring rubrics, and examples of student work, which teachers, parents, and students may find useful for understanding the type of work expected on the state assessments.

Incentives: There are no consequences for students who fail to meet the standards, but for each subject area in which students meet or exceed the state goal on the 10th-grade assessments, a "certificate of mastery" is awarded and attached to the student's high school transcript. Passing the 10th-grade tests is not required for students to graduate from high school.

Interventions: Connecticut does not require districts to provide intervention to students who are having difficulty meeting the standards.

Delaware

Standards: Delaware's standards are described in the *Curriculum Frameworks* covering the four core subjects. The state is currently developing new grade-by-grade "performance indicators" to clarify the standards. "Performance indicators" were available for review at the elementary and middle levels only. The high school level will be available in early 1999.



The addition of the "performance indicators" strengthens the **English** standards at the elementary and middle levels by adding decoding and word strategies. An example of a first-grade decoding standard states that "students will be able to: apply phonetic principles (e.g., consonants, consonant clusters, blends, diagraphs, vowels, word families)." The high school writing conventions and reading comprehension are vague. Many of the standards are simply repeated from the middle and elementary level. For instance, the standard "demonstrate an overall understanding of oral and printed texts by…identifying the story elements (e.g., characters, setting, plot)…" is repeated at each level. The "story elements" students should be studying at grades 9-10 should be significantly more sophisticated than at grades K-3. The high school standards should reflect this difference. We hope that the high school "performance indicators" will bring this needed distinction and clarification to the high school standards.

The **math** standards are clear, specific, and grounded in content at all three levels, as shown in the third-grade example: "Know and use multiplication and division fact families through at least 25 (e.g., 5 x 5 = 25, 25 ÷ 5 = 5)." Another clear example asks high school students to "apply right triangle trigonometry and the Pythagorean Theorem to problem situations involving right triangles." The addition of the "performance indicators" provides further guidance to teachers and parents of the expectations set for students at grades K-8.

The **science** standards are very clear and specific about the content knowledge students should learn. For example, a standard states that by the end of fifth grade, students will know: "Rocks are natural combinations of one or more minerals and are formed under a variety of conditions. Rocks, minerals, and soils are classified according to their physical properties." These standards present detailed scientific content, but in some instances the standards pay little attention to what students should be able to do with the content. The "performance indicators" help clarify what students should do at the elementary and middle levels.

The **social studies** standards are broad and vague about the U.S. and world history that students are expected to know, and the "performance indicators" do not provide any further clarification. Examples include: "Compare customs of another culture to your own" (grade 2); "Identify major people and events from 300 AD to 1500 AD" (grade 7); "Students will study historical events and persons within a given time-frame in order to create a chronology and identify related cause-and-effect factors" (grade 4). U.S. history at the middle and high school levels only focuses on specific eras such as "Revolution and the New Nation 1754-1820s."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	Vague writing conventions and reading
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Vague U.S. and world history	Vague U.S. and world history	Vague U.S. and world history

Assessments: Delaware administers state-developed assessments based on the standards in reading, writing, and math in grades 3, 5, 8, and 10. Beginning in spring 1999, science and social studies tests will be given in grades 8 and 11, and in fall 1999 in grades 4 and 6.

Incentives: In fall 1999, Delaware will retain students in kindergarten through eighth grade who are not passing at least 50 percent of their courses. In 2002, third, fifth, and 10th graders who are found "deficient" in language arts and eighth graders found "deficient" in language arts and/or math, as measured by the state assessments, must pass summer school or be retained for at least one year.

Beginning in 2002, students will have to pass the 10th- and 11th-grade assessments in the four core subjects to graduate from high school. The assess-

ments are based on the ninth- and 10th-grade standards in English and math and on the ninth- through 12th-grade standards in science and social studies.

Interventions: Delaware requires and funds intervention for students having difficulty meeting the standards.

District of Columbia

Standards: The District of Columbia's standards are described in the *Curriculum Frameworks* in the four core subjects. The district is developing English and math "benchmarks" and "resource notebooks," in the four core subjects, to clarify the standards. The "benchmarks" for science and social studies will be ready later this year, but no drafts were available for review. To further supplement the standards, the district also adopted the *New Standards Project* performance standards in English, math, and science.

The **English** standards are generally clear and specific at each level. For example, by the end of third grade, students should be able to "recognize narrative structure by identifying beginnings, middles, and endings; explain why an author chooses certain words (e.g., words from various cultures, vivid verbs); analyze literary characters by discussing motivation; and understand and use metaphor and simile...." The supplemental materials clarify the writing forms and provide guidance on the types of literature students should read. In grade 10, for instance, all students must study drama by reading Shakespeare's *Julius Caesar.* Students also need to read at least five short stories "that provide good examples of the elements of short stories." A list following this standard recommends *The Monkey's Paw,* by W. W. Jacobs, to study plot; *The Secret Life of Walter Mitty,* by James Thurber, for characterization; and *The Chameleon,* by Anton Chekhov, for theme. The "benchmarks" highlight characteristics of the different developmental stages of reading and writing. For example, a "proficient" third-grade reader "identifies main idea in non-fiction...[and] retells in correct sequence using story elements...." The document also lists fiction and nonfiction materials that students should be able to read with "accuracy and comprehension" at each stage.

Based on the "benchmarks" and "resource notebooks," the **math** standards at the elementary and middle levels are clear and specific. For example, second graders need to "distinguish between similar and congruent figures, demonstrate slides, flips, and turns." And an eighth grader "identifies and constructs transformations (translations, rotations, reflections, scalings) of plane figures." The high school level is strengthened significantly by the *New Standards* performance standards. For example, high school students should be able to "compare slope (rise over run) and angle of elevation as a measure of steepness" and "carry out counting procedures such as those involving sets (unions and intersections) and arrangements (permutations and combinations)."

The high school **science** standards are generally clear and specific, and the new "resource notebooks" clarify the elementary and middle level standards. A typical middle school standard requires students to "describe the structure and life processes of cells (...including mitosis, protists, fungi, bacteria and viruses)." And, high school students should be able to "use kinetic molecular theory to explain rates of reactions and relationships among temperature."

The **social studies** standards are clear and specific about the U.S. and world history that students should know at the middle and high school levels. World history standards at the high school level, for instance, expect students to be able to: "Analyze the causes of the Russian Revolution of 1917, and how the ideas and tactics of Lenin and the Bolsheviks defeated the liberal democrats of the center." U.S. history at the elementary level is not specific until grades 4 and 5. By the end of fifth grade, for instance, the standards require students to: "Explain the compromises on slavery that emerged from the balance of forces at the Philadelphia Constitution Convention." World history at the elementary level, however, is virtually ignored.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Vague world history	✔	✔

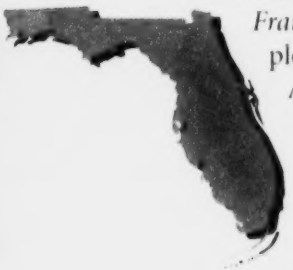
Assessments: D.C. assesses all students in math and reading at grades 1 through 11 using the Stanford 9. The district does not assess student achievement toward the standards.

Incentives: Students in grades 1 through 5 who

score below "basic" on the Stanford 9 in reading and math and do not pass summer school *may* not be promoted to the next grade. The principal makes the final decision of who will be retained. The district does not have an exit exam but, beginning with the class of 2003, any student not performing at the basic level on the 11th-grade Stanford 9 must pass a "basic proficiency test" in reading and math to graduate from high school.

Interventions: The district requires and funds intervention for students at any grade who score below "basic" on the Stanford 9 in reading and/or math.

Florida



Standards: Florida's *Sunshine State Standards* are in the four core subjects. *Curriculum Frameworks* were developed to supplement and clarify the standards. According to state officials, the standards are being edited to strengthen clarity and content. Revisions will be completed in fall 1998, but no drafts were available for review.

The **English** standards are clear across all three levels and could be even stronger if the content were more specific. For example, a standard states that students will exhibit "correct usage of age-appropriate subject/verb and noun/pronoun agreement." What is "age-appropriate"? The "frameworks" at the middle and high school levels clarify the writing conventions. For instance, a middle level writing standard requires that students produce "final documents" that have been edited for a complete list of features including "correct spelling...correct punctuation, including commas, colons, and semicolons...correct common usage, including subject-verb agreement, common noun-pronoun agreement, common possessive forms..." and more. In addition, the *Florida Writes!* assessment booklets clarify the writing forms at all three levels and include examples of student work that illustrate the quality and complexity of writing expected of students at each of the levels.

The **math** standards are generally clear and specific. At times, the standards are broad at the middle and high school levels. For example, a broad high school standard states that a student "describes, analyzes, and generalizes relationships, patterns, and functions using words, symbols, variables, tables, and graphs." The "words, symbols, variables, tables, and graphs" that a high school student should know to meet the standard are unclear. Overall, however, the standards are clear and grounded in specific content. The "framework" also includes "sample performance descriptors" that illustrate how the standards might look in a classroom.

The **science** standards are also clear, specific, and grounded in content. The "framework" is especially helpful with the inclusion of detailed "sample performance descriptors" that clarify the standards and illustrate how they might look in a classroom. For example, a high school student "knows that the solid crust of Earth consists of slow-moving, separate plates that float on a denser, molten layer of Earth and that these plates interact with each other, changing the Earth's surface in many ways (e.g., forming mountain ranges and rift valleys, causing earthquake and volcanic activity, and forming undersea mountains that can become ocean islands)." Based on this knowledge, a student "describes how and why the appearance of the surface of the Earth is changing."

At the elementary and high school levels, the **social studies** standards are generally clear, specific, and focused on content. For example, a high school student "understands the rise of early civilizations and the spread of agriculture in Mesopotamia, Egypt, and the Indus Valley." At times, however, the world history at the elementary level is less explicit. For example, an elementary student should understand "the cultural traditions and contributions of various societies since the Renaissance (e.g., the role of folktales and literature in transmitting cultural beliefs and the holidays of different cultures)." This standard fails to specify any particular cultures from this broad time period. The world history at the middle level is somewhat unclear, and the U.S. history is vague and lacks specific content. A vague U.S. history example at the middle level asks that a student "understands ways that significant individuals and events influenced economic, social, and political systems in the United States after 1880." The essential individuals or events students should learn about are not specified.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	✔	Vague U.S. and world history	✔

Assessments: Beginning in the 1998/99 school year, Florida will test students in grades 4, 8, and 10 in reading and writing and grades 5, 8, and 10 in math using state-developed assessments based on the standards. The state does not plan to assess social studies or science in the near future. Florida

also tests students in reading and math at grade 11, but the tests are not based on the standards.

To help describe the writing and fifth-grade math assessments, Florida has developed *Florida Writes!* and *FCAT Mathematics Sample Test Scoring Guide and Answer Key* documents, which include test items, scoring rubrics, and examples of student work. Teachers, parents, and students may find these documents useful for understanding the type of work expected on the state assessments.

Incentives: Beginning this year, students will not be promoted beyond the fifth grade unless they meet specific levels of performance. The state will set performance levels based on the reading, writing, and math assessments and promotion will be based on student performance on the tests. Until the performance levels are set, and for any of the grades not assessed by the state, districts will determine if students meet the required level of performance.

Students must pass the 11th-grade reading and math assessments to graduate from high school. These tests are not based on the standards. Students who pass the 10th-grade assessments, which are based on the 10th-grade standards, will be exempt from taking the 11th-grade tests.

Interventions: Florida requires districts to provide instructional assistance to students who fail any of the 11th-grade exit exams. The state does not provide funds for this program. The state also requires intervention for students in grades K-8 who are not at grade level in reading, writing, or math. Currently, districts determine whether students meet specific levels of performance, but once the state's performance levels are set, students will also be selected for intervention based on their performance on the state assessments. This intervention is partially funded by the state.

Georgia

Standards: Georgia's standards in the four core subjects are described in the *Quality Core Curriculum.* Revisions to the social studies standards will be presented to the State Board of Education in November 1998. There were no drafts available for review. The high school standards are organized by courses; all students are expected to meet the standards found in English core skills, American literature/comprehension, algebra I, algebra II, biology, citizenship, U.S. history, and economics.

The **English** standards are clear and specific at the elementary and middle levels. For example, the standards state that a first grader "recognizes and reads compound words, contractions, possessives, and words containing the suffixes 'ing,' 'ed,' 's,' and 'es.'" And, a sixth grader "identifies the parts of a sentence in simple and compound sentences: subjects; predicates; complements (predicate adjectives, predicate nominatives, direct objects); [and] modifiers (words and phrases)." High school writing and reading comprehension are strengthened by the addition of the *High School Graduation Test Content Description for English Language Arts* and the *High School Writing Test* documents. For example, the standard states: "The writer uses the conventions appropriate for Standard American English... [including] appropriate usage." The supplemental writing document defines "appropriate usage" as: "...clear and correct pronoun reference, correct subject-verb agreement, standard forms of verbs and nouns, and the appropriate form of adjectives and adverbs. Usage also includes an awareness of the difference between homonyms ('to,' 'too,' and 'two') and other frequently confused words ('accept' and 'except,' 'lie' and 'lay')." It is not clear, however, if teachers, parents, and students have access to these supplemental documents.

The **math** standards, the strongest of the four subjects, are clear, specific, and grounded in content at all levels. For example, a fifth-grade student "identifies factors and multiples of a given number, including prime factorization." In another example from algebra I, a student "sketches the graph of a linear equation in two variables given appropriate information, such as (but not limited to) slope, x-intercept, y-intercept, and two points."

The **science** standards are clear and specific at the elementary and middle levels. In the fifth-grade standards, a student "describes atomic structure of and relationship between atoms, elements, molecules, and compounds. Uses models to identify electrons, protons, and neutrons as basic structural components of atoms. Shows relation of atoms and elements to molecules and compounds (models, diagrams, and formulas)." At the high school level, the standards and the *High School Graduation Test Content Description for Science* include specific life, physical, and, to a more limited degree, earth science standards that all students must meet to graduate from high school. It is not clear, however, if teachers, parents, and students have access to this supplemental document.

The **social studies** standards covering U.S. history and civics are clear and specific across all levels. For example, a fourth grader "describes the sources of dissatisfaction that led to the American Revolution (e.g., smuggling, taxation without representation, Intolerable Acts, Stamp Act, Boston Tea Party, and Boston Massacre)." World history at the elementary and middle levels only list regions to cover. For instance, a student: "Traces the important political developments of Asia, the Middle East, and Africa and shows how cooperation and conflict contribute to these developments." World history at the high school level is significantly strengthened by the *High School Graduation Test Content Description for Social Studies.* On its own, a high school standard states that the student "identifies and examines the major causes and events that led to the western democratic revolutions...." The graduation document clarifies this standard: "This objective deals with the development of English government in the 17th and 18th centuries. The English government became a limited monarchy and incorporated the ideas of John Locke. The American colonies expanded these ideas to form a democratic form of government." It is not clear, however, if teachers, parents, and students have access to this supplemental document.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Vague world history	Vague world history	✔

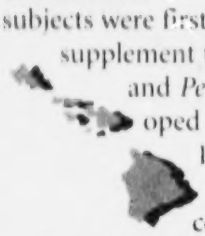
Assessments: Georgia administers the Iowa Test of Basic Skills in grades 3, 5, and 8 in the four core subjects. The state also tests writing in grades 3, 5, 8, and 11 and the four core subjects in grade 11 using state-developed assessments. The state-developed tests are based on the standards. Georgia will add new tests in grades 4, 6, and 8 in English/language arts and math. In 2000 Georgia will begin to develop science and social studies tests based on the standards, but it hasn't determined which grades will be assessed.

To help describe the assessments Georgia developed *Graduation Test Content Descriptions* and writing assessment guides, which include test items, scoring rubrics, and examples of student work. Teachers, parents, and students may find these documents useful for understanding the type of work expected on the state assessments.

Incentives: To graduate from high school, students must take and pass the 11th-grade assessments based on the 11th-grade standards in the four core subjects. Students who pass certain advanced coursework graduate from high school with "distinction." And, any student who maintains a "B" average in high school can receive free tuition and a book allowance to attend any Georgia state college or university or $3,000 to attend any private college or university in the state.

Interventions: The state requires and funds interventions for students who are struggling to pass the Iowa Test of Basic Skills or the writing test. Districts can also set their own criteria to identify students in need of extra help, and the state will fund the intervention.

Hawaii



Standards: Hawaii's standards in the four core subjects were first presented in *Essential Content*. To supplement this document, *Student Outcomes* and *Performance Standards* were developed to clarify student expectations. In 1999, the state will write new *Performance Standards* in the four core subjects.

Hawaii's **English** standards are not clear or specific at any level. A grade 4-6 standard such as "publish quality pieces appropriate to grade level" is not clear about the content students should learn to meet this standard. Coverage of reading basics and writing conventions is nonexistent at all levels, and reading comprehension is vague at the middle and high school levels. For instance, a high school reading standard requires students to practice "proficient and strategic reading...set goals and evaluate own achievement of reading." The standards do include suggested reading lists to illustrate the quality and complexity of reading expected at each level.

The **math** content at the middle level is generally clear and specific. For example, seventh- and eighth-grade standards expect students to: "Calculate mean, median, and mode in a given data set.... Predict how changes to a data set will affect the mean, median, or mode." The high school and elementary standards focus more on skills than content. An algebra standard requires that students "apply equations, inequalities, and matrices to real-life situations." But, no mention is made of the appropriate "equations," "inequalities," and "matrices" students should learn to meet this standard.

The **science** standards include some content, but it is not always specific. Many of the standards are unclear about what students should know, and many more are unclear about what students should be able to do with the content. For example, in grades 4-6, students should "demonstrate an understanding that organisms are made up of different functioning parts which are composed of a cell or cells organized to perform all life functions contributing to the welfare of the whole organism." The standard is not clear and does not specify the "functioning parts" of an organism that students at this level should learn.

The **social studies** content is both limited and vague. World history is nonexistent at each level, and U.S. history is stated in very broad terms. In grades 4-6, for instance, students: "Demonstrate understanding of the roots and foundations of U.S. and Hawaii History...[including] The First American, and the European immigration to America...[and] How a New Nation was built and the New Frontiers during the Westward Movement." There are no other details beyond these broad statements.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	No reading basics or writing conventions; Vague reading comprehension	No reading basics or writing conventions; Vague reading comprehension	No writing conventions; Vague reading comprehension
Math	Vague content	✔	Vague content
Science	Unclear and vague content	Unclear and vague content	Unclear and vague content
Social Studies	No world history; Vague U.S. history	No world history; Vague U.S. history	No world history; Vague U.S. history

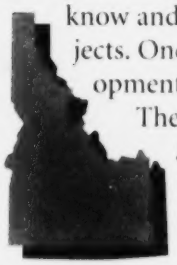
Assessments: Beginning in the 1998/99 school year, Hawaii will administer the Stanford 9 in grades 3, 5, 7, and 9 in reading and math. Hawaii also administers state-developed assessments in the four core subjects in grade 10. According to state officials, only the 10th-grade tests are "partially aligned" with the standards.

Incentives: All students must pass the 10th-grade tests to graduate from high school. It is unclear on which grade level the tests are based. Students who take more than the minimum required coursework for graduation and who have a 3.0 grade point average or higher can earn a "certificate of recognition" from the state.

Interventions: Hawaii requires districts to provide intervention for students who fail any of the 10th-grade exit exams. This intervention is funded by the state.

Idaho

Standards: The draft *State Exiting Standards* describe what high school students in Idaho should know and be able to do in the four core subjects. Once the exit standards are final, development of the standards for K-8 will begin. The state also has *Skills-Based Scope & Sequence Guides* that specify the skills K-6 students need to know in the four core subjects.



The **language, reading, spelling, and writing** "guides" are all clear, specific, and grounded in content. In reading, for example, second graders should be able to: "Name sound-symbol relationships of silent consonants in such words as 'wrong,' 'know,' 'gnat,' and 'climb.'" And sixth graders should be able to: "Explain such literary terms as caricature, exaggeration, figurative language, flashback, metaphor, simile, pun, sarcasm, and symbol." The final spelling standards include lists of high-frequency words that students should master at each grade. The high school comprehension standards are clear and specific—e.g., "understand how an author can use language and literary devices such as mood, tone, style, formatting, and structure to aid comprehension"—but the writing conventions are not. For example, high school students should be able to "follow rules and conventions of grammar, punctuation, and spelling." What are some of the conventions that are appropriate for the high school level?

The **math** "guides" are overly broad, repetitious skill statements devoid of any specific content. The repetition is especially noticeable in the data analysis and algebra standards: "Collect and record data.... Draw and interpret graphs.... Understand probability terms.... Recognize, extend, and generate patterns." What are some probability concepts a first grader should learn versus a sixth grader? What kind of "patterns" should a first, fourth, or sixth grader be able to "recognize"? The high school standards are generally clear and specific, and include helpful examples that illustrate tasks students could do to meet the standard. A strong high school example asks students to "solve quadratic equations and inequalities (such as $x^2 + 3x = 7$ or $x^2 + 3x \leq 7$)." One way for students to meet this standard is to "find trajectories for falling objects such as baseballs or arrows." The high school geometry standards could be even stronger if the content were more explicit.

The **science** "guides" are not specific about the content students should learn. Examples at the fourth-grade level include: "Understand the digestive, circulatory, respiratory, and excretory systems"; "Classify living things using various characteristics." What is essential and appropriate for a fourth-grade student to know about the different biological systems? What are some of the "characteristics" they should use to "classify living things"? The high school standards are clear and specific. For example, a standard states that "the student will explain the structure of atoms." When studying atoms, the student will be expected to: "Identify the function and location of the protons, neutrons, and electrons. Compare and contrast fission and fusion. [And] describe the characteristics of isotopes."

World history is absent from the **social studies** "guides," and the U.S. history standards are vague. Examples include "identify some important Americans who lived during different broad historical periods," and "compare the past to the present by studying the past to learn how concepts began and developed." The high school level includes specific U.S. history ("trace the process of expansion of citizenship to Native Americans, African Americans, and women"), but at times the content is broad. There is minimal attention paid to world history but it is only in the context of U.S. involvement in international conflicts and cooperation (Vietnam, United Nations).

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	Vague writing conventions
Math	Vague content	Vague content	✔
Science	Unclear and vague	Unclear and vague	✔
Social Studies	No world history; Vague U.S. history	No world history; Vague U.S. history	Vague world history

Assessments: Idaho assesses students using commercially developed tests in grades 3 through 8 (Iowa Test of Basic Skills) and grades 9 through 11 (TAP) in the four core subjects. The state also administers state-developed assessments in grades

4, 8, and 11 in writing and grades 4 and 8 in math. None of these tests is aligned with the "guides."

New sixth- and 10th-grade science tests, based on the standards and to be administered in 2000/01, are pending approval. Idaho is also planning to develop assessments based on the standards once they are all finalized. The new tests are in the early planning stages, and no details or approval have been given.

Incentives: There are no incentives for students to meet the standards.

Interventions: Idaho does not require districts to provide intervention to students who are struggling to meet the standards.

Illinois

Standards: Illinois has *Learning Standards* in the four core subjects. The state is developing performance standards that will identify the level and type of work needed to meet the standards. In addition, the science and social studies content standards are currently being reviewed, and all of the standards will be reviewed over the next year.

The **English** standards are clear about what students should be able to do, but are not clear about the content they should learn. The reading basics and writing conventions are extremely broad. For example, students at every level will "read age appropriate material with fluency and accuracy." The standards fail to provide clarification of what the state defines as "age appropriate." "Fluent" and "accurate" also should have different meanings when applied to a fourth grader versus a 12th grader. These standards do not make that distinction. Treatment of the different writing forms is also weak across all levels. For example, elementary students need to "write for a variety of purposes including description, information, explanation, persuasion, and narration." The standard provides no guidance on the writing elements students should learn.

The **math** standards are generally clear and specific at the elementary and middle levels. For instance, elementary students need to "calculate, compare, and convert length, perimeter, area, weight/mass, and volume within the customary and metric systems." The high school level, however, is not as specific about the content students should know. Examples include: "Construct and use two- and three-dimensional models of objects that have practical applications (e.g., blueprints, topographical maps, scale models)"; "perform and describe an original investigation of a geometric problem and verify the analysis and conclusions to an audience." But, the underlying geometric knowledge that high school students should learn is not stated.

The **science** standards are clear and specific at all three levels. For example, middle school students will be able to "model and describe the chemical and physical characteristics of matter (e.g., atoms, molecules, elements, compounds, and mixtures)." The high school level could be even stronger if some of the standards were more specific. For example: "Explain theories, past and present, for changes observed in the universe." What are some of the specific "theories" high school students should learn?

The **social studies** standards clearly define what students should be able to do, but are vague about what students should know. The world history standards include specific historical references, but many ask students to cover a span of 1,000 years or more. It is unrealistic to expect a common core of learning to develop based on such broad standards. For example, students at the middle level need to "describe political effects of European exploration and expansion on the Americas, Asia, and Africa after 1500 CE."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague reading basics and writing conventions	Vague reading basics and writing conventions	Vague writing conventions
Math	✔	✔	Vague content
Science	✔	✔	✔
Social Studies	Vague U.S. and world history	Vague U.S. and world history	Vague U.S. and world history

Assessments: Beginning in the 1998/99 school year, Illinois will administer new state-developed assessments based on the standards. Reading, writing, and math will be assessed in grades 3, 5, 8, and 10 and science and social studies in grades 4, 7, and 11. Beginning in 2000, the state will give new 12th-grade tests based on the standards in English and math; science and social studies tests will be added in 2001.

Incentives: There are no consequences for students who do not meet the standards, but beginning in 2001, students who pass the new 12th-grade tests will earn an "advanced diploma."

Interventions: Beginning this year, Illinois will require districts to provide extra academic help to students who are not performing at a certain level in reading, writing, and math in grades 3 and 5. According to state officials, the state has not yet decided if it will provide funding for the program.

Indiana

Standards: Indiana's standards in the four core subjects are described in the *Proficiency Guides*. The state also developed high school *Competencies* in English, math, and science, which clarify the high school expectations. The math and science *Competencies* are organized by courses, and students are expected to meet the algebra I, geometry, and biology standards.

The **English** standards are focused heavily on skills at the expense of specific content. For example, middle school students should be able to "select and use developmentally appropriate strategies for writing, including...editing and proofreading for usage, mechanics, and spelling." What are some of the "strategies" students should learn? What is "developmentally appropriate" usage? The reading basics, writing conventions, reading comprehension, and writing forms are also vague and repetitious at each level. For example, the following standard is repeated from grades 6 through 12: "Write for different purposes and audiences producing a variety of forms, including...personal narratives." The quality and complexity of narrative writing is less sophisticated at the sixth-grade level than at the 12th-grade level but the standards fail to reflect this difference. The *Competencies* document does not clarify the content or skills high school students should learn.

The **math** standards are generally clear and specific. For instance: "Given a right triangle, [eighth graders will be able to] use the Pythagorean theorem relationship to determine the measure of an unknown side." The document includes numerous examples to show how the standards might look in a classroom, but so many examples make the document large and somewhat cumbersome to use. The *Competencies* strengthens the high school level by providing clear, explicit content and examples. For instance: "Graph ordered pairs of numbers in the coordinate plane and interpret information related to these sets of points. Example[s]: In which quadrant is the graph of (-2,-6)? Plot the points (0,2), (3,0) and (6,-2) in a coordinate plane to determine if they are collinear."

The **science** standards are generally clear and specific. For example, middle school students need to know: "There are groups of elements that have similar properties, including highly reactive metals, less-reactive metals, highly reactive nonmetals (such as chlorine, fluorine, and oxygen), and some almost completely nonreactive gases (such as helium and neon)...." It is important to note that sometimes the standards pay little attention to what students should be able to do with this detailed content. What students should do with the content knowledge is just as important as the need for the content to be clear and specific. The document also includes "snapshots" of classrooms that implemented the science standards. The *Competencies* document does not provide any further clarification of the high school standards.

The **social studies** standards virtually ignore world history at the elementary level, and present broadly stated, vague world history at the middle and high school levels. A typical broad standard asks students to "identify major historical figures from societies of the Eastern World and their influence on a specific culture and the world." The U.S. history standards are virtually nonexistent at the elementary level until the fifth grade, but are broad in scope. For example, fifth graders should be able to: "name major historical figures and describe their involvement in the development of the United States." At the middle level, U.S. history is not addressed until the eighth grade, but it is generally clear and specific. At the high school level all students need to meet the U.S. history and U.S. government standards, which are also clear and specific, but could be strengthened if the content were more focused. For instance, students should be able to "examine the major ideas and concepts about government that developed during the Colonial and Constitutional eras." What are some of the "major ideas and concepts" high school students should learn?

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	No reading basics; Vague writing conventions, reading comprehension, and writing forms	No reading basics; Vague writing conventions, reading comprehension, and writing forms	Vague writing conventions, reading comprehension, and writing forms
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Vague U.S. and world history	Vague world history	Vague world history

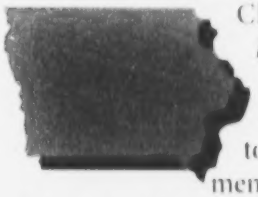
Assessments: Indiana tests all students in English and math in grades 3, 6, 8, and 10 using state-developed assessments based on the standards. The state is not planning to assess science or social studies. To help describe the assessments, Indiana developed the *ISTEP and Classroom Performance Assessment* document, which includes test items and rubrics for scoring student work. Teachers, parents, and students may find this document useful for understanding the type of work expected on the state assessments.

Incentives: To graduate from high school, all students must pass the 10th-grade English and math tests, which are based on the ninth-grade standards.

Interventions: The state requires districts to provide intervention to students who fail to meet a passing standard on any of the state assessments. The state provides matching funds to assist districts with the cost of the intervention.

Iowa

Standards: Iowa is the only state that does not have and is not planning to develop state content standards. The state produced a CD-ROM called *Standards Development for School Improvement in Schools* that directs districts to resources to assist them with the development of their district standards and curriculum. Legislation passed in spring 1998 requires the State Board of Education to establish indicators in reading, math, and science that all schools must use to report student achievement data to their local communities and to the state.



Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	No standards	No standards	No standards
Math	No standards	No standards	No standards
Science	No standards	No standards	No standards
Social Studies	No standards	No standards	No standards

Assessments: Iowa does not have a state assessment system, but districts are required to assess student performance and to report the data to the state. According to officials, 99 percent of the districts use the Iowa Test of Basic Skills to measure student performance.

Incentives: None.

Interventions: None.

Kansas

Standards: Kansas is developing new *Curriculum Standards* in the four core subjects. The English standards were adopted in summer 1998, and the math standards are in draft form. According to state officials, the science and social studies standards will be completed in the next year, but no drafts were available for review.

The **reading** and **writing** standards are clear and specific at all three levels. The document could be even stronger if the reading basics were more explicit about what students need to learn at the early elementary level. For example, second graders need to "...relate sounds to symbols...recognize frequently used (sight or common) words...use context clues to help determine unfamiliar words...." What are some "context clues" second graders should know and apply? By the end of fifth grade the reading standards are more specific. For example: "The students use context clues such as definition, restatement, and example to determine meaning of unfamiliar vocabulary...use synonyms, antonyms, homographs, and homophones...identify figurative language (similes, metaphors, and idioms)."

The **math** standards are also clear and specific across all three levels. For instance: "The student [in grades 3-4] recognizes, draws, or describes points, lines, line segments, rays, and angles as right, obtuse, or acute"; "The student [in grades 6-7] determines the measures of central tendency (mean, median, and mode) and the range for a rational number data set containing an even or odd number of data points." The document also includes one of the most comprehensive glossaries we've seen. The definitions further clarify the concepts and terms included in the standards.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	Currently Under Development		
Social Studies	Currently Under Development		

Assessments: Kansas tests students in reading in grades 3, 7, and 10 and math in grades 4, 7, and 10. Writing, science, and social studies are also assessed in grades 5, 8, and 10, but the writing tests alternate with the science and social studies tests (i.e., this year students will be assessed in writing and next year in science and social studies). These state-developed exams will be revised to align with the standards.

Beginning in the 1999/00 school year, new state-developed assessments based on the standards will be administered in reading and writing in grades 5, 8, and 11 and math in grades 4, 7, and 10. Beginning in 2000/01, the state will also administer tests in science in grades 4, 7, and 10 and social studies in grades 6, 8, and 11. Once all tests are in place, the science and social studies exams will continue to alternate with the writing exam, except for the fifth-grade writing test, which will be given annually.

Incentives: There are no incentives for all students to meet the standards.

Interventions: Kansas requires all districts to provide extra academic assistance to struggling students. Each district sets its own criteria for identifying students, but results of the state assessments must be included in the criteria. Districts can use "at-risk" funds allocated by the state to fund the intervention.

Kentucky

Standards: Kentucky's standards in the four core subjects are described in the *Core Content for Assessment.* The state developed *Program of Studies* and *Learning Descriptions* (at the elementary level) to clarify the standards.

The **English** standards are not specific about the reading basics and writing conventions students should learn at the middle and high school levels. The *Learning Descriptions* clarify the basics at the elementary level. The state also developed a variety of materials showing the quality and complexity of student writing expected at each level, but none of these materials clearly indicates the basic knowledge and skills students need to learn to produce grade-appropriate work at the middle and high school levels. For example: "Students [at every level] compose sentences that are correct, as well as varied in length and structure…spell correctly, use correct punctuation, and capitalize letters according to standard rules." The standards acknowledge that the expectations for grammar, spelling, and punctuation at the sixth grade should be different from expectations set at the 12th grade. But, the standards fail to explain how the expectations differ at each level. The *Program of Studies* clarifies some of the reading basics at the elementary level, but they do not strengthen the middle or high school levels.

The **math** standards are generally clear and specific about what students should know and be able to do. The *Program of Studies* provides further clarification. For example, elementary students "add and subtract fractions with common denominators using manipulatives and/or diagrams." And, middle level students should be able to "organize data into tables and plot points onto all four quadrants of a coordinate (Cartesian) system/grid…."

The **science** standards, the strongest of the four subjects, are clear and specific about the content students should learn. Without the *Program of Studies,* the standards are not clear about what students need to do with the knowledge. One middle school standard requires students to know that "the motion of an object can be described by its position, direction of motion, and speed. An object that is being subjected to balanced forces will remain at rest or will continue to move at a constant speed and in a straight line. Unbalanced forces will cause changes in the speed or direction of an object's motion. Vibrations in materials set up wavelike disturbances that spread away from the source." The *Program of Studies* completes the standard by clarifying what students must do, in this case requiring students to "investigate and analyze balanced or unbalanced forces and the effect on an object's motion."

At the elementary level, the **social studies** standards lack world history, and the U.S. history is vague. Fifth graders, for example, need to know: "The way we live has changed over time for both Kentuckians and Americans because of differences in many areas (e.g., communication, technology, homes, transportation, recreation, traditions)." This is an important notion for students to understand, but at this level of generality, it would likely be interpreted differently by teachers, assessment developers, and others. World history is also vague at the high school level where the historical content is presented as a list of broad eras and periods, with no elaboration of the essential content students must know. For instance, high school students need to know: "Nationalism, militarism, and imperialism led to world conflicts, economic booms and busts, and the rise of totalitarian governments." The standard is not only vague about the important events and people that should be covered, it is also unclear about what students should do with such knowledge. The *Program of Studies* does not strengthen any of the levels, because it does not clarify the specific content students should learn.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	Vague reading basics and writing conventions	Vague writing conventions
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	No world history; Vague U.S. history	✔	Vague world history

Assessments: Beginning in the 1998/99 school

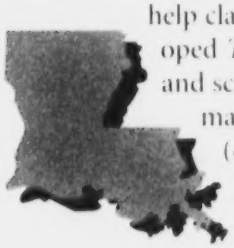
year, Kentucky will implement a new testing program. According to state officials it will include reading and science tests in grades 4, 7, and high school; writing in grades 4, 7, and 12; and math and social studies tests in grades 5, 8, and high school. To help describe the writing assessments, Kentucky developed *Writing Portfolio Handbooks,* which include performance levels and examples of student work. Teachers, parents, and students may find these documents helpful to understand the level of work expected on the state assessment.

Incentives: There are no consequences for students who do not meet the standards, but there are incentives for students to meet the standards. Students who meet or exceed credit requirements, which include Advanced Placement courses, and who maintain a "C" in all their classes earn the state's advanced "Commonwealth Diploma."

Interventions: Kentucky provides funding for extra academic assistance to students who are having difficulty meeting the standards. Students are selected for the intervention based on teacher recommendation.

Louisiana

Standards: Louisiana's standards are described in the *Frameworks* covering the four core subjects. To help clarify the standards, the state developed *Teachers' Guides* in English, math, and science; *Teachers' Handbooks* in math; and high school course guides (only the math guides were available for review).



Many of the **English** standards on reading comprehension and writing forms are not specific about the knowledge students should learn. For example, what an elementary student can do includes: "Interpreting texts to generate connections to real-life situations....Reading with fluency for various purposes (e.g., enjoying, learning, problem solving)." What do students need to know to "interpret texts"? For example, do they need to know genre, theme, character motivation? Many of these standards also repeat across each level. For instance, students at every level will be: "Recognizing ...and responding to United States and world literature that represents the experiences and traditions of diverse ethnic groups." The draft *Teachers' Guide* includes "content parameters" that clarify the writing mechanics for each level. Appropriate punctuation at the elementary level, for instance, includes "use of end punctuation (with sentences and with abbreviated titles, such as Mr.). Use of commas in a series of terms and in dates, between city and state, after the salutation and after the closing of a friendly letter. Use of apostrophes with contractions and possessives." And appropriate high school punctuation includes "use of commas...to separate independent clauses in a compound sentence, to set off direct quotations..., to set off an appositive or parenthetical phrase...[and] use of semicolon in a sentence to separate independent clauses...."

With the addition of the draft *Teachers' Guide*, the **math** standards are very clear and specific and provide more specific guidance on the content and skills students should learn and use. Fourth graders, for example, should be able to "use addition to find perimeter of a geometric shape, given lengths of sides in a labeled illustration or word problem (customary or metric units)"; eighth graders: "classify right, obtuse, and acute angles"; and 10th graders: "perform translations, reflections, or rotations on a coordinate plane." The draft high school course guides clearly lay out the expectations for students in each of the core math courses and electives and the *Teachers' Handbook* provides standards-based activities at each grade level that include assessment opportunities and describe possible obstacles to student learning.

The **science** standards are generally clear and specific. For example, what middle school students are expected to do includes: "Describing the observable components and functions of a cell, such as the cell membrane, nucleus, and movement of molecules into and out of cells." And, what high school students should be able to do includes: "Explaining the relationship among chromosomes, DNA, genes, RNA, and proteins." The elementary life science standards are not as specific as the life science standards at the other levels. For example, what elementary students should do in life science includes: "Identifying the needs of plants and animals, based on age-appropriate recorded observations...[and] locating and comparing major plant and animal structures and their functions." How does the state define "age-appropriate"? What "structures" and "functions" should students learn about? The draft *Teachers' Guide* clarifies some of the content and includes sample lab experiments that show how the standards might be applied in a classroom.

The attention to U.S. history in the **social studies** standards is generally clear and specific at the high school level. For example, what students are able to do includes: "Analyzing the causes, developments, and effects of the Great Depression and the New Deal." The middle level also includes some specific content, but many of the standards are vague. For instance, middle school students will be "discussing significant developments and issues in contemporary United States history [from 1945]." What are some of the key events and individuals that students should learn? The U.S. history at the elementary level lacks any historical references. For instance, students will be "describing the people, events, and ideas that were significant to the growth and development of our state and nation." World history is not specific at the elementary or high school levels. Elementary students, for example, will be "identifying the characteristics and historical development of selected societies throughout the world." And high school students will be "explaining

the worldwide significance of major political, economic, social, cultural, and technological developments and trends [1945 to the present]."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague reading comprehension and writing forms	Vague reading comprehension and writing forms	Vague reading comprehension and writing forms
Math	✔	✔	✔
Science	Vague life science	✔	✔
Social Studies	Vague U.S. and world history	Vague U.S. and world history	Vague world history

Assessments: Louisiana tests all students in English and math using the Iowa Test of Basic Skills in grades 4, 6, 8, 10, and 11. The state also tests English and math in grades 3, 5, 7, and 10 and science and social studies in grade 11. The tests are not aligned with the standards.

The state is developing new assessments based on the standards to replace the current state-developed tests. Tests in English and math will be given in grades 4 and 8 beginning in spring 1999, and in grade 10 beginning in spring 2001. New science and social studies tests will be administered in grades 4 and 8 beginning in spring 2000, and in grade 11 beginning in spring 2002. To help describe the new state assessments, Louisiana is developing *Teachers' Guides to Statewide Assessment* in English, math, and science, which include sample test items. Teachers, parents, and students may find these guides useful for understanding the type of work expected on the new state assessments.

Incentives: Louisiana requires student results on the third-, fifth-, and seventh-grade English and math tests to be the "principle criteria for promotion" decisions. Once the new English and math tests are in place, this policy will apply to the new fourth- and eighth-grade tests.

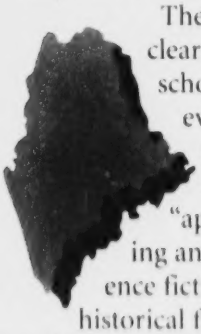
All students must pass the 10th-grade English, writing, and math tests and the 11th-grade science and social studies tests to graduate from high school. These state-developed tests are not aligned with the standards. Beginning in 2001, students will have to take new 10th-grade English and math exams; and new science and social studies tests will be given beginning in 2002. The new exams will be based on the 10th- and 11th-grade standards.

The TOPS program (*Tuition Opportunity Program for Students*) offers free tuition to any approved public or private university or college in the state to high school students who take college-prep courses, earn a 2.5 grade point average (on a 4.0 scale), and earn a score of at least 19 on the ACT. Students graduating in the top 5 percent of the graduating class, with a 3.5 grade point average, and an ACT score of at least 23 will also earn a $400 stipend. If the ACT score is 27 or higher, the stipend increases to $800.

Interventions: Louisiana requires and funds district-level intervention for students who fail any of the state-developed assessments. This program will continue once the new assessments are in place.

Maine

Standards: Maine's standards in the four core subjects are described in *Learning Results.*



The **English** standards are generally clear and specific at the middle and high school levels. The standards could be even stronger if the content were more explicit. For instance, middle school students should be able to: "apply effective strategies to the reading and interpretation of fiction (e.g., science fiction, myths, mysteries, realistic and historical fiction, poems, adventure stories, and humorous tales), using texts that are appropriately complex in terms of character, plot, theme, structure, and dialogue and appropriately sophisticated in style, point of view, and use of literary devices." The state does not define "appropriately complex" and "appropriately sophisticated" for middle grade students, however. The elementary level provides limited guidance on the reading basics. For example, elementary students need to "figure out unknown words using a variety of strategies including rereading, context clues, and knowledge of word structures and letter-sound relationships," but this is the only standard that deals with decoding skills. Strong reading basics must be included at the elementary level so that teachers and parents have a clear understanding of what students should know and be able to do to develop into proficient readers.

The middle and high school **math** standards focus on skills at the expense of specific content. This weakness, however, is most concentrated in the geometry and measurement standards. One broad measurement standard requires middle school students to "demonstrate the structure and use of systems of measurement." And, one of the few high school geometry standards requires students to "use inductive and deductive reasoning to explore and determine the properties of and relationships among geometric figures." The content and skills at the elementary level are more specific. For example, students will be able to "give examples of infinite and finite solutions." At times, however, the content could be more explicit. For instance, students in grades 3 and 4 should be able to "use the patterns of numbers, geometry, and a variety of graphs to solve problems." What kinds of "patterns of...geometry" should students know how to use to solve problems?

Of the four core subjects, the **science** standards are the most clear, specific, and grounded in content. Students in grades 3-4, for example, should know how to "compare and contrast physical and living components of different biomes—i.e., regions characterized by their climate and plant life—(e.g., tundra, rain forest, ocean, desert)." And, high school students are expected to know how to "analyze the changes in continental position and the evidence that supports the concept of tectonic plates."

The U.S. and world history content in the **social studies** standards is not specific at any of the levels. Consider the following examples: "Demonstrate an understanding of cultural origins of customs and beliefs in several places around the world" (grades PreK-2). "Demonstrate an understanding of selected turning points in ancient and medieval world history and the continuing influence of major civilizations of the past" (grades 5-8). "Demonstrate an understanding of the lives of selected individuals who have had a major influence on history" (grades 9-12). These standards provide no specific historical references. Civics is similarly vague at the elementary level, but is stronger at the middle and high school levels. High school students, for example, should be able to "demonstrate how the United States Constitution uses checks and balances in order to prevent the abuse of power (e.g., Marbury vs. Madison, Gulf of Tonkin Resolution, Watergate)."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague reading basics	✔	✔
Math	✔	Vague content	Vague content
Science	✔	✔	✔
Social Studies	Vague content	Vague U.S. and world history	Vague U.S. and world history

Assessments: Maine tests all students in the four core subjects in grades 4, 8, and 11 using state-developed tests based on the standards. To help describe the state assessments, Maine has developed the *Educational Assessment Performance Level*

Guides, which include test items, scoring rubrics, and examples of student work. Teachers, parents, and students may find these documents useful for understanding the type of work expected on the state assessments.

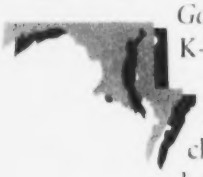
Beginning in spring 1999, the state will administer new tests in the same grades and subjects mentioned above. According to state officials, these tests will be more closely aligned with the standards.

Incentives: There are no incentives for students to meet the standards.

Interventions: Maine does not require districts to provide intervention to students who are struggling to meet the standards.

Maryland

Standards: Maryland's standards for grades K-8 are called *Learning Outcomes* and the standards for grades 9-12 are called *High School Core Learning Goals*. This year, the state drafted new K-12 content standards to supplement the *Learning Outcomes* and *High School Core Learning Goals* and to clarify the content and skills students should learn. Maryland also developed *Learning Outcomes: Clarification of Outcomes and Indicators* to supplement the K-8 standards by providing teaching tips and techniques for bringing the standards into the classroom; only science and social studies "clarifications" are currently available.



The reading basics and writing conventions are generally clear at all three levels, but the **English** standards could be stronger if some of the content were more specific. A specific writing conventions standard asks fifth graders to "use knowledge of punctuation (e.g., quotation marks, apostrophes), usage (e.g., pronoun referents), and sentence structure (e.g., properly placed adjectives) to edit their writing." But some vague reading standards include: "determine the meaning of and use accurately, new words encountered in reading materials" (grades 9-12); and "use language appropriate for a particular audience, purpose, and social context" (grades K-3). These standards present broad skills without defining specific content knowledge. The writing forms and reading comprehension are also limited at the middle and high school levels. By the end of eighth grade, for instance, students will "compare and contrast the ways multiple themes are expressed in multiple texts," but there is no indication of the "themes" or genres middle level students should learn to meet this standard.

The draft **math** standards are generally clear and specific about what students need to learn at the elementary and middle levels. For example, by the end of fifth grade, students should be able to "add, subtract, multiply, and divide whole numbers; add and subtract fractions and decimals; multiply and divide decimals (money) by whole numbers." And, eighth graders need to "determine relationships between length, area, and volume and describe how a change in one measure affects the others." The *High School Core Learning Goals* are more specific than the standards. For example: "The student will identify and verify properties of geometric figures using concepts from algebra and using the coordinate plane.... When using the coordinate plane, concepts from algebra include use of the distance, midpoint, and slope formulas."

The new **science** standards are generally clear and specific at the elementary level, and the middle level is clearest when dealing with earth science. For example, students need to "explain how earth's crustal plates are influenced by movements in the mantle to produce major geologic events." Life science, however, is not as specific at the middle level. For instance, eighth graders should "explain that living organisms are composed of cells (single-celled or multicellular) of which details can usually be seen through a microscope." What kind of "details" should middle school students observe? At the high school level, the *Learning Goals* are both clear and specific. For example, "...students will explain how a genetic trait is determined by the code in a DNA molecule. [Including]...definition of gene, structure of DNA (sugar, phosphate, and nitrogen basis), sequence of bases directing protein formulation, protein's control of traits."

The new **social studies** standards are clear and specific at all three levels. For example, high school students need to "explain the reasons for and consequences of, Johnson's impeachment and trial" and "explain the impact of Enlightenment ideas such as those expressed by Hobbes, Locke, and Burke on absolutist monarchies." World history at the elementary level is limited and could be even stronger if the content were more specific.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	Vague writing forms and reading comprehension	Vague writing forms and reading comprehension
Math	✔	✔	✔
Science	✔	Vague life science	✔
Social Studies	✔	✔	✔

Assessments: Maryland tests students in grades 3, 5, and 8 in the four core subjects using state-developed tests based on the standards. The state also assesses ninth graders in reading, writing,

math, and citizenship, but these tests are not based on the standards. To help describe the state assessments, the state developed *MSPAP Public Release Tasks* in the four core subjects. The "tasks" include tests items, scoring rubrics, and examples of student work. Furthermore, the *1996 MSPAP and Beyond: Score Interpretation Guide* provides detailed explanations of the performance levels against which students will be measured. Teachers, parents, and students may find these documents useful for understanding the type of work expected on the state assessments.

Maryland is developing new high school end-of-course exams to replace the ninth-grade exams. In fall 2000, the state will begin phasing out the ninth-grade tests and begin phasing in the new end-of-course exams. The class of 2004 will take English I, algebra *or* geometry, and government. The class of 2005 will take English I and II, algebra *and* geometry, government, and a choice of two sciences (biology, chemistry, physics, earth and space). The class of 2006 will take all the previously listed exams and English III, world history, and U.S. history.

Incentives: All students must pass the ninth-grade tests (which they can begin taking in seventh grade) to graduate from high school. The tests assess seventh-, eighth-, and ninth-grade knowledge and skills and are not based on the standards. Students who earn high grades in high school will also earn a "certificate of merit."

The end-of-course exams will replace the ninth-grade exams and serve as the exit exams that all students must pass to graduate from high school. The State Board of Education has not yet determined which of the tests students will be required to pass, but the tests will be based on the high school standards.

Interventions: Students who fail any portion of the exit exams must be provided with extra academic help before they can re-take the test(s). The state does not provide funding for the intervention. The State Board of Education recently passed a resolution requiring Maryland to establish an intervention system with funding. The system will be in place in two years.

Massachusetts

Standards: Massachusetts' standards in the four core subjects are described in the *Curriculum Frameworks.* This year the state developed *Guides to the Massachusetts Comprehensive Assessment System* to clarify the content and skills the state will assess. The guides for English, math, and science were available for review.

The **English** standards are clear and specific at the elementary level. The standards include a section called "Figure C," which clarifies the beginning reading and writing expectations for grades preK-3. For example, first graders should be able to "identify and form all letters... recognize story elements such as events, characters, setting, moral...[and] With teacher help, begin to use basic mechanics such as end marks and capitalization." The standards also include sample passages that students should be able to read at the end of grades 3 and 4. The middle and high school levels are generally clear and specific, but the writing forms could be clearer. For example, middle level students must "identify and use common expository organizational structures and graphic features to comprehend information and compose reports or presentations in all academic disciplines." What are some of the "common expository organizational structures" middle school students should know? The standards also include a comprehensive suggested reading list that covers all three levels and recommends a variety of genres.

The **math** standards are broad at the elementary level, but the new math assessment guide provides clarity and specificity to the standards at all three levels. For example, an elementary standard asks students to "describe, model, draw, and classify shapes." The guide adds: "[Students will] use many types of shapes, (e.g., squares, cubes, rectangles, prisms, rhombi, parallelograms, polygons, pyramids, circles, spheres) and identify the figures by their properties (e.g., number of right angles, symmetry, number of faces, two or three dimensions)." It is not clear, however, if teachers, parents, and students have access to this supplemental document. The middle and high school standards are generally clear and specific. In grades 9-10, for example, students: "Identify congruent and similar figures, using transformations."

The **science** standards are clear and specific at all three levels. A detailed high school standard requires students to: "Examine and describe evidence that the 'solid' Earth has a layered structure, with each layer having characteristic composition and physical properties. A solid inner core is surrounded by a liquid outer core, which in turn is surrounded by a large zone of dense mantle materials. The crust is relatively thin compared to the other layers of Earth's interior. Examine ways in which the layers are interconnected by the transfer of heat and material by conduction and convection." The guide clarifies what students are expected to do on the state assessment and is a good companion piece to the standards.

Massachusetts' **history/social science** standards are extremely specific and detailed, except at the elementary level where civics is ignored. For example, students in seventh grade should study "the Byzantine Empire; institutions, religion, and culture: Empire shifts to East; Constantinople; Code of Justinian; Preservation of heritage of antiquity; Establishment of the Eastern Orthodox Church; conversion of the Slavs; the arts: Hagia Sophia; mosaics; icons; weaknesses, ultimate fall of Constantinople to the Turks." It is important to note that the standards pay little attention to what students are supposed to do with this detailed content. What students need to be able to do with the content knowledge is just as important as the need for content that is clear and specific.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	No civics	✔	✔

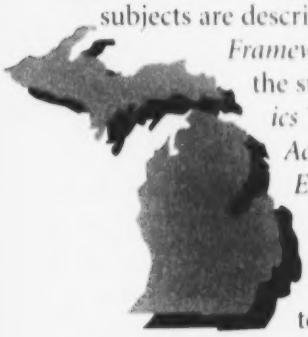
Assessments: Massachusetts tests students in grades 4, 8, and 10 in English, math, and science using state-developed tests based on the standards. Beginning in spring 1999, social studies tests based on the standards will be given at the same grades.

The "assessment guides" include sample test items that teachers, parents, and students may find useful to understand the type of work expected on the state assessments.

Incentives: Beginning with the class of 2003, students must pass the 10th-grade assessments in the four core subjects to graduate from high school. The tests will be based on the 10th-grade standards, and students will first take the tests in 2001. Once students pass the 10th-grade tests, they will receive a *Certificate of Initial Mastery* and then may work toward a *Certificate of Advanced Mastery* or a *Certificate of Occupational Proficiency*. The details for earning the advanced certificates are under development.

Interventions: Massachusetts does not require districts to provide intervention to students having difficulty meeting the standards.

Michigan



Standards: Michigan's standards in the four core subjects are described in the *Curriculum Framework*. To clarify the standards, the state developed the *Mathematics Teaching & Learning Sample Activities* and the *Science Education Guidebook*. Both of these supplemental documents offer examples, suggestions, and resources to assist teachers with bringing the standards into the classroom.

The **English** standards include some specific content, but are overshadowed by vague skills. The standards pay little attention to reading basics, and the writing conventions are virtually absent at all three levels. For example, in reading, early elementary students should "read with a developing fluency a variety of texts such as stories, poems, messages, menus, and directions." But the standards neither define "developing fluency" nor provide guidance on the specific reading knowledge and skills early elementary students need to develop into proficient readers. One writing standard requires middle school students to "plan and draft texts, and revise and edit their own writing, and help others revise and edit their texts in such areas as content, perspective, and effect." The standards pay no attention to the essential knowledge and skills middle school students should learn to "plan," "draft," "revise," and "edit." The literature comprehension and writing modes are also vague at all three levels. A high school standard, for example, requires students to "describe and discuss archetypal human experiences that appear in literature and other texts from around the world." What do high school students need to know and be able to do to meet this standard?

The *Teaching & Learning Sample Activities* clarify the **math** standards. For instance, middle school students need to "differentiate between functions and relations such as linear vs. not linear or continuous vs. non-continuous." The *Sample Activities* adds: "[Students will be] exploring and classifying examples of relationships, including: linear relationships (the relationship between Fahrenheit and Celsius temperatures); quadratic relationships (the relationship between the area of a square and the length of its side); inverse relationships (the relationship between speed and time when traveling a fixed distance)...." With the supplemental document, the standards are clear and specific across all three levels.

The **science** standards are generally clear and specific across all three levels and include "key concepts" to clarify the knowledge students should learn. These concepts are especially helpful at the elementary level, which asks students to "design systems that encourage growing of particular plants or animals." To meet this standard students need to know and understand the needs of animals and plant life: "...food, habitat, water, shelter, air, light, [and] minerals."

The **social studies** standards virtually ignore history and civics at the elementary level. For example, elementary students need to "identify problems from the past that divided their local community, the state of Michigan, and the United States and analyze the interests and values of those involved." U.S. history at the middle and high school levels is also quite broad. The most specific high school U.S. history standard lists broad eras: "Describe major factors that characterize the following eras in United States history: The Development of the Industrial United States (1870-1900), The Emergence of Modern America (1890-1930), The Great Depression and World War II (1929-1945), Post War United States (1945-1970) and Contemporary United States (1968-present)." What are some of the "major factors," or specific aspects, of these eras that students should learn? World history is also broad at the middle level and is ignored in high school. Middle school students, for example, need to: "locate and describe major cultural, economic, political, and environmental features of Africa, Europe, Asia, Australia, and North and South America and the processes that created them."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague content	Vague content	Vague content
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Vague U.S. history; No world history or civics	Vague U.S. and world history	No world history; Vague U.S. history

Assessments: Michigan tests students in reading and math in grades 4, 7, and 11 and writing in grades 5, 8, and 11. Only the 11th-grade tests are based on the standards. The state will align the grade 4, 5, 7, and 8 tests in the future. Students in grades 5, 8, and 11 are also tested in science using assessments based on the standards, and beginning in 1999, social studies tests will be given in the same grades.

Incentives: There are no incentives for students to meet the standards.

Interventions: Michigan requires districts to provide intervention to students who do not score satisfactorily on the fourth- and seventh-grade reading tests. The state does not provide separate funding for the intervention.

Minnesota

Standards: Over the past year, Minnesota has adopted standards called the *Profile of Learning*. All that was available for review, however, was the official "rule" language, which reads like a piece of legislation. To clarify the standards, the state is also developing frameworks in the four core subjects. Only the math and science frameworks were available for review—social studies is due out in fall 1998 and English will be out in 1999. The state also has *Basic Requirements* that complement the *Profile of Learning* and describe the minimum requirements students need to master on the state's exit exam to graduate from high school.

The **English** standards neglect to address the essential reading basics or writing conventions. The standards are very clear about what students should be able to do, but they neglect any discussion of the basic knowledge needed to meet the standards. Students at the elementary level, for example, are expected to "...demonstrate appropriate techniques for learning new vocabulary" and "...interpret figurative language." What are some of the "appropriate techniques" students should know to learn and interpret language? And, at what point are students taught how to read? These standards fail to address the fundamental reading basics that all students should master before they can even begin to meet the standards. The *Arts Framework* helps to further clarify the comprehension expected at each of the levels.

The **math** standards are improved with the addition of the *Mathematics Framework*, which presents a more balanced focus on content and skills. For example, elementary students need to "...use whole numbers to represent numbers in more than one way, count and order, name and locate, measure, describe, and extend pattern." The framework breaks down this overwhelming standard into clear components: "...read, write, and count using whole numbers (to 10, to 20, to 100, and to 1000)...order and compare whole numbers to 1000 using equal, not equal, more than, less than, is about or is nearly." The framework also includes activities illustrating how the standards could look in the classroom, which teachers may find helpful as they integrate the standards into their lessons.

The **science** standards are not clear or specific about the scientific content students should learn. For example, students at the intermediate level "...shall demonstrate...an understanding of cycles and patterns in living organisms, earth systems, and physical systems." When content is present, it is displayed as a list of terms, (e.g., "motion, force, matter...") providing no guidance on what students should know about the concepts, i.e., the level of complexity, or about what students should be able to do with the content knowledge. The framework doesn't clarify the standards, but it does provide "snapshots" of how the standards might look in a classroom.

The **social studies** standards are extremely broad about the history and civics knowledge students should learn. The high school level does not include any references to world history, and U.S. history is presented as a list of broad eras only—this is an improvement over last year's draft, which failed to include any specific U.S. history. Unfortunately, there have been no attempts to include any specific content at the elementary or middle levels. For example: "A student shall demonstrate knowledge of the facts and sequences of historical events, the origins and shaping influences of various points of view, and historical events in relationship to themes of change and migration by: ...illustrating a theme of change or migration that encompasses historical events...."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	No writing conventions; Vague reading basics	No writing conventions; Vague reading basics	No writing conventions
Math	✔	✔	✔
Science	Unclear and vague content	Unclear and vague content	Unclear and vague content
Social Studies	No U.S. or world history	No U.S. or world history	No U.S. or world history

Assessments: Minnesota tests all students in reading, writing, and math in grades 3, 5, and 8 using state-developed assessments based on the standards. To help describe the assessments, Minnesota developed third-, fifth-, and eighth-grade *Writing*, *Reading*, and *Mathematics*

Specifications, which include test items, scoring rubrics, and examples of student work. Teachers, parents, and students may find these documents useful for understanding the type of work expected on the state assessments.

Beginning in the 1999/00 school year, Minnesota will administer state-developed tests in the four core subjects to all 10th or 11th graders (the state has not finalized the grade) based on the *Profile of Learning*.

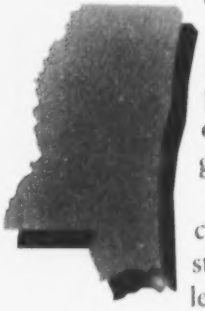
Incentives: Beginning with the class of 2000, all students must pass the eighth-grade reading, writing, and math tests to graduate from high school. These tests are based on the *Basic Requirements*.

Students can choose to take part in the "Scholars of Distinction" program, which recognizes "distinguished performance" against the standards. Students in the program take advanced coursework and are mentored by community and business leaders. Students who score at a certain level on Advanced Placement or International Baccalaureate courses earn a scholarship to the college of their choice in the state.

Interventions: Districts are required to provide extra academic help to all students who fail any portion of the eighth-grade exit exams. The state provides funding for the intervention.

Mississippi

Standards: Mississippi's standards are described in the *Frameworks* and *Curriculum Structure* in the four core subjects. The high school level is organized by courses, and all students are expected to meet the standards found in English 9, 10, 11, and 12; pre-algebra; algebra; geometry; biology; world history; U.S. history; U.S. government; and Mississippi studies.



The **English** standards are not clear about the writing conventions students should learn at any of the levels. Writing at the high school level, for example, requires students to "spontaneously employ a writing process." What are some of the elements the "writing process" should include? The elementary reading standards are strengthened by a rubric to assess students' knowledge and use of letter-sound relationships, and by the *Resource Supplement for Grades K-3*. And, both the elementary and middle level reading standards are clarified by the *Intervention Supplements*. An example of first-grade reading asks students to "pronounce all sounds in words containing two or three phonemes" and "blend sounds in words containing initial and final blends." And, sixth graders will "extend word patterns (e.g., prefixes, suffixes, inflection ending)" and "use synonyms, antonyms, and homonyms." The *Intervention Supplements* also include very helpful questions to ask and observations for teachers to make to determine if students are on target to meet the standards. To assist students in grades 8-12 who are having difficulty reading or writing, Mississippi is drafting "compensatory reading and writing" courses for students to take.

The **math** standards are clear, specific, and grounded in content at all three levels. For instance, fifth graders will "define, illustrate, and label the following parts of a circle: center, radius, diameter, circumference; solve problems involving radius and diameter and their ratio; and identify these parts of circles in real world situations." And high school pre-algebra students need to "graph ordered pairs, linear equations, and inequalities in a Cartesian coordinate plane using pencil and graph paper and calculators/computers as appropriate." The high school standards are mostly clear, although at times, the standards concentrate more on skills than content. For instance, students should be able to "collect, organize and interpret data sets; draw conclusions and make predictions from the analysis of data." What essential knowledge should high school students learn to meet this standard?

The **science** standards at the elementary and middle levels are very clear and specific about what students should know and be able to do. For example, fifth-grade students need to "classify energy as potential or kinetic and relate it to forms of energy including light, sound, and electricity." In high school, students must meet the biology standards, which include limited references to physical science and are clear and specific. For instance, high school students should be able to "explain the chemical composition of living systems including carbohydrates, proteins, enzymes, lipids, nucleic acids, and key inorganic compounds." There are, however, no common earth science standards that students must meet at the high school level.

Mississippi's new **social studies** standards favor broad historical references over specific content. For example, seventh graders should "investigate the history of the following: Asia, Africa, Europe, Australia, and Islands of the Pacific (e.g., early man, Greek, Romans, etc.)." U.S. history is barely addressed at the elementary level and is very broad at the middle level. In grade 6, for example, students "trace the evolution of political organizations in the Western Hemisphere (e.g., Organization of the United States, etc.)." This standard fails to specify essential events or people that all students should learn. The high school level is broad, but there is more of an attempt to incorporate specific content in the standards. For instance, students will "explain the changing role of the United States in world affairs since 1877 through wars, conflicts, and foreign policy (e.g., Spanish-American War, Korean conflict, containment policy, etc.)." World history is not mentioned until the sixth grade, and the focus never moves beyond broad statements. A seventh-grade standard, for example, calls for students to "assess the interactions of nations over time in the Eastern Hemisphere (e.g., political conflicts, commerce, transportation, immigration, etc.)." The standards also include a list of suggested historical fiction and nonfiction materials, which teachers and parents may find helpful.

Which Standards Are Clear, Specific, and Grounded in Content?

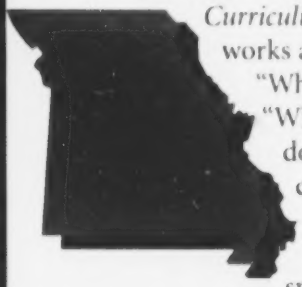
	Elementary Level	Middle Level	High School Level
English	Vague writing conventions	Vague writing conventions	Vague writing conventions and reading comprehension
Math	✔	✔	✔
Science	✔	✔	No common earth science
Social Studies	No world history; Vague U.S. history	Vague U.S. and world history	Vague U.S and world history

Assessments: Mississippi tests students in English and math in grades 4 through 8 (Iowa Test of Basic Skills) and 9 (TAP). According to state officials, these commercially developed assessments are aligned with the standards. The state also administers state-developed tests, based on the standards in grade 11 in the four core subjects and end-of-course exams in algebra I, biology, and U.S. history for students who choose to take the respective course.

Incentives: Students must pass the 11th-grade reading, writing, and math tests to graduate from high school. These assessments are based on the eighth-grade standards.

Interventions: Mississippi does not require districts to provide intervention to students having difficulty meeting the standards.

Missouri



Standards: Missouri's standards in the four core subjects are described in the *Frameworks for Curriculum Development*. The frameworks are organized into two sections: "What students should know" and "What students should be able to do." For most of the subjects, the clearest standards are found in the latter section, resulting in a heavy skills focus with little to no specific content.

The **communication arts** (English) standards are clear about the reading comprehension students should possess at each of the grade levels. But, the standards do not provide the basic knowledge and skills students need to learn to develop into proficient readers and writers. For example, by the end of second grade, students should be able to "demonstrate understanding of print conventions...recognize similarities and differences in words, stories and ideas."

At times, the **math** standards contain specific content, but a majority of the standards are unclear about the specific knowledge students should learn. Elementary students, for example, should know "descriptions of two- and three-dimensional figures"; and should be able to "describe, model, draw, and classify shapes." What are some of the "descriptions" an elementary student should know to "describe" and "classify" different shapes?

Science is the clearest of the subjects and addresses specific scientific knowledge and skills across the three levels. For example, middle school students should be able to "use models to demonstrate how genetic material is transmitted and how gene traits are expressed in offspring." To meet this standard, students need to know that "chromosomes are components of cells that occur in pairs and carry hereditary information from one cell to its daughter cells, and from a parent to its offspring."

The **social studies** standards are strengthened significantly by the *Content Specifications for Social Studies*. U.S. history is generally specific at all three levels, although it is limited at the elementary level. Middle school students, for example, will learn about the "causes and consequences of...the American Revolution, including the perspectives of patriots and loyalists and factors that explain why the Americans were successful." World history is not addressed at the elementary level and is presented as a list of regions and cultures at the middle level. The high school level presents world history as a list of themes with very broad guidance on the events or people that students should learn. For example, high school students should learn about the "significant developments in, changes in, and the impact of philosophy and culture (Renaissance, Reformation, Enlightenment, and global interdependence)." Are there specific events or individuals from the Reformation or Enlightenment period that are essential for high school students to learn about?

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	No reading basics; Vague writing conventions	No reading basics; Vague writing conventions	Vague writing conventions
Math	Unclear and vague	Unclear and vague	Unclear and vague
Science	✔	✔	✔
Social Studies	No world history	Vague world history	Vague world history

Assessments: Missouri assesses students in grades 4, 8, and 10 in math. Beginning in 1999, students will be tested in communication arts in grades 3, 7, and 11 and science in grades 3, 7, and 10. In 2000, students will also be tested in social studies in grades 4, 8, and 11. All of these state-developed tests will be based on the standards.

Incentives: There are no consequences for students who do not meet the standards, but any student who scores "proficient" or "advanced" on the 10th-grade math tests qualifies to have tuition paid for a "dual-credit" math course and/or to have the fee paid for an Advanced Placement exam. The state hopes to extend this incentive to science and communication arts in spring 1999.

Interventions: Missouri does not require districts to provide intervention to students struggling to meet the standards.

Montana

Standards: Montana is writing new standards in the four core subjects. The state is currently developing communication arts standards, which include reading, writing, speaking and listening, media literacy, and literature. Only the reading standards were available for review. The reading and math standards were recently adopted, but the final math standards were not available for review. Science will be completed in fall 1998, and social studies will be worked on in the future. The standards also include performance level descriptions outlining the knowledge and skills needed at each level.

The **reading** standards are not clear or specific and many of the standards are repeated from level to level. High school students, for example, are expected to "critically compare and contrast information and broad themes within and among multiple sources of information." What are some of the "themes" high school students should know? And, the following standard is repeated at the elementary and middle levels: "Decode unknown words combining the elements of phonics, grammatical structures, analysis of word parts and context to understand reading materials." The "grammatical structures" and "analysis of word parts" that should be expected of students are less sophisticated at the fourth-grade level than the eighth-grade level, but the standards do not reflect this difference.

The **math** content is not very specific. For example, middle school students should "construct sample spaces and determine the theoretical and experimental probabilities of events." What are some of the "theoretical" and "experimental" probabilities that a middle school student should know to meet this standard?

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Currently Under Development		
Math	Vague content	Vague content	Vague content
Science	Currently Under Development		
Social Studies	Currently Under Development		

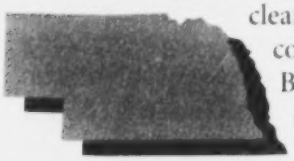
Assessments: Montana requires districts to assess students in grades 4, 8, and 11 in the four core subjects using one of three commercially developed tests approved by the state. These tests are not aligned with the standards, but the state is beginning the process of matching the standards to an "aligned" test.

Incentives: There are no incentives for students to meet the standards.

Interventions: Montana does not require districts to provide intervention to students struggling to meet the standards.

Nebraska

Standards: Over the past year, Nebraska wrote new standards in the four core subjects.



The **reading** and **writing** standards present clear and specific literature comprehension expectations. By the end of high school, for example, students should be able to "analyze, evaluate, and apply knowledge of how authors use such elements of fiction as point of view, characterization, and irony for specific rhetorical and aesthetic purposes." The reading basics and writing conventions are included at the elementary and middle levels, but they could be even stronger if the content were more explicit. A reading standard, for instance, asks first graders to "recognize common words that are phonetically irregular (e.g., was, were, where)"; and "use phonetic knowledge to read." What "phonetic knowledge" should a first grader learn? And fourth graders need to "read or view materials of varying difficulty to find answers to specific questions." What types of "questions" should fourth graders be asking about the text? Should they, for instance, address main idea or setting? At the high school level, the writing conventions are quite limited. For instance, by the end of 12th grade, students need to "use all conventions of standard English in their writing across the curriculum."

The **math** standards are generally clear and specific. For example: "By the end of eighth grade, students will add, subtract, multiply, and divide decimals and proper, improper, and mixed fractions with uncommon and common denominators...." But at times, the standards need to be more explicit. For example: "By the end of twelfth grade, students will utilize geometric relationships and terms to describe the physical world." What are some of the "geometric relationships and terms" high school students should learn? At the elementary level, the standards include "suggested parent activities" that correlate to specific standards and which can be done at home.

The **science** standards are clear and specific across all three levels. Consider the following examples: "Distinguish between reflection and refraction of light" (grade 4). "Investigate and diagram the crust, mantle, and core of the earth" (grade 8). "Investigate and understand that plant cells and many micro-organisms use solar energy to combine molecules of carbon dioxide and water into organic compounds" (grade 12).

The **social studies** standards at the middle and high school levels are quite strong, and the attention to history and civics is detailed. By the end of eighth grade, for example: "Students will describe growth and change in America from 1801 to 1872, such as territorial exploration, expansion, and settlement, such as the Louisiana Purchase, the Lewis and Clark expedition, the acquisition of Florida, Texas, Oregon, and California...." The elementary history standards, however, ignore specific U.S. and world history.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	Vague writing conventions
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	No U.S. or world history	✔	✔

Assessments: The State Board of Education adopted a statewide assessment plan, which includes a standardized test in each of the four core subjects at grades 4, 8, and 11, beginning in the 1999/00 school year. It is not clear, however, if the state will measure student achievement toward the standards.

Incentives: There are no incentives for students to meet the standards.

Interventions: Nebraska does not require districts to provide intervention to students having difficulty meeting the standards.

Nevada

Standards: Nevada recently adopted English, math, and science standards. The social studies standards are in early draft form and not available for review.

The **English** standards are clear and specific across all three levels. A typical second-grade reading standard asks students to "identify and use knowledge of spelling patterns such as diphthongs and special vowel spellings when reading; apply knowledge of basic syllabication rules when reading (e.g., v/cv=su/per, vc/cv=sup/per)." And a fifth-grade writing standard asks students to "identify and correctly use pronoun case, often misused verbs such as lie/lay, sit/set, rise/raise, and modifiers such as comparative and superlative forms." The standards provide more guidance on the different writing forms than most state standards. Eighth graders will "write narratives or short stories that reveal the writer's attitudes toward the subject; relate a coherent incident, event, or situation by using well-chosen details; and employ strategies such as relevant dialogue and physical description." The standards also include helpful definitions of many of the terms used throughout the standards.

The **math** standards are generally clear and specific at each level. For example, elementary students should be able to "draw and classify angles and triangles according to their properties (e.g., right, obtuse, and acute); identify and draw circles and parts of circles, describing the relationships between the various parts (e.g., central angle, arc, diameter)." And high school students will: "Analyze the validity of statistical conclusions noting various sources of bias, misuse and abuse of data caused by a wide variety of factors including choices of scale, probability versus odds, inappropriate uses of measures of central tendency, inaccurate curve fittings and inappropriate uses of controls or sample groups." The standards also include helpful definitions of many of the terms used throughout the standards.

The middle and high school **science** standards are clear and specific about the content students should learn. For example, 12th-grade students should know that "the force of attraction that exists between two masses is inversely proportional to the square of the distance between them." At times, however, the middle and high school standards pay less attention to what students should be able to do with this content. How the content knowledge is applied is just as important as the need for the content to be clear and specific. The elementary physical and earth science standards are clear and specific, but the life science standards focus more on what students should know and not on what specific content they should learn. For example, fifth graders should be able to "explain how living things may be classified on the basis of similar features, behaviors, and/or habits." But the standards do not specify the "features" that living things can be classified by.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	Vague life science	✔	✔
Social Studies	Currently Under Development		

Assessments: Nevada tests all students in grades 4, 8, and 10 in English, math, and science using the commercially developed TerraNova exams. The state also tests writing at grade 8 and reading, writing, and math at grade 11. Only the 11th-grade tests are based on the standards.

In 2003, Nevada will give an 11th-grade science test based on the standards and administer other new tests based on the standards. It is unclear in which subjects or grades the new tests will be given. Beginning in 2001, the state will also test social studies. Officials have not decided whether the social studies tests will be state or commercially developed or in which grades the test will be given.

Incentives: Students must pass the 11th-grade reading, writing, and math tests based on the 10th-grade standards to graduate from high school. Beginning in 2003, students will also have to pass the new science test.

Interventions: Nevada requires districts to provide intervention for students who are struggling to meet the standards. The state only provides funding to those schools that have been designated low performing.

New Hampshire

Standards: New Hampshire's standards are described in the *Curriculum Frameworks* covering the four core subjects. The state developed *Addendum* documents in English, math, and science and a *Curriculum Book* in social studies to supplement and clarify the standards.

The **English** standards at the middle level are generally clear and specific. For example, middle school students should be able to "identify and understand the use of a variety of types of figurative language including analogies, personification, hyperbole, and alliteration." The elementary standards do not specify any essential writing knowledge students need to learn. Consider the following examples: "Prepare a written draft to frame and try out ideas" and "Recognize that a draft composition may need to be revised for organization, content, accuracy, and clarity." The high school level focuses on skills over specific content. For example, high school students should be able to "compose comprehensive and detailed examples of writing that contain the characteristics of the selected form." What are some of the "characteristics" high school students should include in their writing? The *Addendum* does not clarify the standards. Instead, the document contains vignettes that illustrate how the standards might look in a classroom.

The **math** standards are generally clear and specific at every level. The *Addendum* clarifies the standards (especially at the elementary and middle levels) and includes sample activities. For instance, fourth graders "...should identify congruent figures and explain why the figures are congruent." And sixth graders should "given a set of data" be able to "find its mean, median, and mode." The standards could be even stronger if the content were more explicit at the high school level. A relatively specific standard expects students to "use basic transformations...(for example: reflections, translations, rotations, or dilations)...to demonstrate similarity, symmetry, and congruence of figures." Another standard asks students to "investigate the properties of two- and three-dimensional shapes." What are some of the "properties" that are appropriate for high school students to "investigate"?

The **science** standards are presented in two clusters: K-6 and 7-12. It would be difficult for a common core of learning to result from these standards, because the document does not indicate what a first grader should know and be able to do compared to a sixth grader. The *Addendum* helps by providing expectations for grades K-2, 3-4, 5-6, 7-8, and 9-10. With the addition of the *Addendum*, the standards are clear and specific at all three levels. Consider the following items: Middle and high school "students will demonstrate an increasing understanding of how electrical and magnetic systems interact with matter and energy." To demonstrate this understanding, eighth graders should be able to "classify materials according to their ability to insulate against electrical or magnetic fields...[and] explain the difference between static electrical charge and the flow of electrical current." The elementary level could be even stronger if some of the earth science standards were more specific. For example: "Students will be able to sort and categorize rocks, minerals, and other earth materials using one or more characteristics." What are some of the "characteristics" that are appropriate for a second grader to use to categorize rocks?

Both the middle and high school **social studies** standards are clear and specific about the U.S. history, world history, and civics students should learn. By the end of 10th grade, students should be able to "demonstrate an understanding of major topics in the study of the Revolutionary Era (1763—1787) including the causes of the Revolution, the establishment of government through the Declaration of Independence, the Articles of Confederation, and the Continental Congress...." In contrast, an elementary standard requires students to "discuss the ongoing story of their community, state, and nation in terms of the contributions of countless individuals." World history is organized into two clusters: K-6 and 7-10, which results in broad content at grades K-6. For example, by the end of 10th grade, students need to be able to "discuss the significance of the English Revolution of the 17th century including its political ideas and the development of parliamentary government, at home and in the colonies." But, by the end of sixth grade, students need to "demonstrate a basic understanding of the origin, development, and distinctive characteristics of major ancient, classical, and agrarian civilizations including the Mesopotamian, Ancient Hebrew, Egyptian, Nubian (Kush), Greek, Roman, Gupta

Indian, Han Chinese, Islamic, Byzantine, Olmec, Mayan, Aztec, and Incan Civilizations." This standard covers a significant amount of content, but it is too broad. With no guidance on when to introduce the topics, it is nearly impossible to expect a common core of learning to develop. Smaller clusters at the K-6 level, could help address this concern. The *Curriculum Book* includes a thorough discussion of historical eras for grades K-6 and includes a list of suggested literature for students to read. The document, however, suffers from the same problem as the standards. It does not specify when the content should be covered during the first seven years of school.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	No writing conventions	✔	Vague content
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Vague U.S. and world history	✔	✔

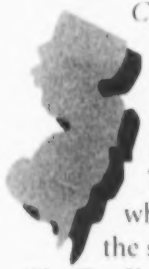
Assessments: New Hampshire tests English and math in grades 3, 6, and 10 and science and social studies in grades 6 and 10. These state-developed tests are based on the standards.

Incentives: There are no incentives for students to meet the standards.

Interventions: New Hampshire does not require districts to provide intervention to students having difficulty meeting the standards.

New Jersey

Standards: New Jersey is developing *Curriculum Frameworks* to complement the *Core Curriculum Content Standards.* The frameworks provide numerous classroom activities and vignettes to illustrate how the standards might look in a classroom. The state also developed *Test Specifications and Sample Items,* which describes the content tested on the state assessments.



The **English** standards focus heavily on skills at the expense of specific content. There are no specific reading basics, writing conventions, reading comprehension, or writing forms at any of the levels. For example, fourth graders should be able to "read literally, inferentially, and critically." The standards do not define the basic reading knowledge that students should develop to meet this standard. An eighth-grade writing standard requires students to "understand that written communication can affect the behavior of others." Again, the standards do not provide any essential knowledge or skills students need to become proficient writers at the middle level. Finally, 12th graders need to "understand the range of literary forms and content that elicit aesthetic response." What are some of the "literary forms" high school students should know? The *Test Specifications* include specific content, but the content is identical at the fourth, eighth, and 12th grades. The writing abilities of a fourth grader are much less sophisticated than those of a 12th grader. This difference isn't reflected in any of the standards materials.

The new *Test Specifications* strengthen the **math** standards significantly by clarifying the specific content and skills that are absent in the standards. For instance, eighth graders should be able to "graph integers, rationals, and roots on a number line; find a number between two rational numbers.... Find equivalent forms of fractions, decimals, and percents; find the absolute value of a number; [and] translate numbers between standard notation and scientific notation." It is not clear, however, if teachers, parents, and students have access to this supplemental document.

The **science** standards are generally clear and specific across all three levels. The standards are also clarified by the *Test Specifications.* For example, in the standards, 12th graders should be able to "describe how information is encoded in genetic material." The *Test Specifications* elaborate the knowledge 12th graders need to know about genetics: "Characteristics are inherited as a result of hereditary factors called genes. These genes occur, in most cases, in homologous pairs. Some genes are dominant. Others, which may be hidden, are recessive. Genes may separate without regard to how other genes separate in the production of sex cells...." It is not clear, however, if teachers, parents, and students have access to this supplemental document.

The **social studies** standards do not include any specific U.S. or world history content. Instead, the standards refer to historical eras that students should study by the time they graduate from high school, e.g., "Prehistory (to 2000 BC)" or "The Age of Global Encounters (to 1700)." The framework does not clarify the content students should learn at each level.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague content	Vague content	Vague content
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	No U.S. or world history	No U.S. or world history	No U.S. or world history

Assessments: New Jersey tests English and math in grades 4, 8, and 11 and science in grade 4. Only the fourth-grade tests are based on the standards. Beginning in 1999, the state will administer new eighth-grade assessments based on the state standards in English and math. New 11th-grade English and math tests and fourth-grade social studies tests will be given in 2000; new eighth- and 11th-grade science tests in 2001; and social studies tests in grades 8 and 11 in 2002. The *Test Specifications* in English, math, and science include sample test items that teachers, parents, and students may find useful for understanding the type of work expected on the state assessments.

Incentives: Students must pass the 11th-grade assessments in English and math to graduate from high school. These tests measure a 10th-grade level of performance, but are not based on the standards.

In 2000, however, New Jersey will give new 11th-grade English and math tests based on the 10th-grade standards. Science tests will be added in 2001 and social studies in 2002.

Interventions: New Jersey requires all districts to provide intervention to students in every grade. Each district sets its own criteria for identifying struggling students, but the criteria must include work toward the state standards. The state does not fund the intervention.

New Mexico

Standards: New Mexico's standards are described in the *Content Standards, Benchmarks, and Performance Standards* covering the four core subjects. During 1997 and 1998, the state revised and clarified the standards and developed the document *Ideas: Instructional Strategies for Implementing Content Standards and Benchmarks*, which includes student work, rubrics, and sample classroom lessons based on the standards.

The **English** standards are clear and specific across all levels. A middle school reading standard expects students to "…demonstrate proficiency with: grammar (usage, homonyms, and subject-verb agreement); paragraph structure (support a topic sentence using reasons, examples, and anecdotes and concluding sentences); punctuation (commas, hyphens, quotation marks); extending sentence structure by including compound elements and clauses…." The standards are specific about the different writing forms, focusing not only on the different forms of writing but also on the structure and organization of the different writing styles – especially at the middle level. For example: "The student designs an explanation of a procedure that: provides a logical sequence and includes specific steps and transition between steps; consistently uses an appropriate visual format, e.g., headings, graphs, or illustrations; excludes extraneous information; anticipates problems, mistakes, and misunderstandings that might arise for the reader…; and engages and provides a sense of closure for the reader…." These standards are more specific than most of the writing standards across the country.

The **math** standards are generally clear and specific about what students need to know and be able to do. Students in high school, for instance, should "explain why triangles are similar or congruent." Middle school students will be able to "use a variety of counting techniques such as trees, permutations, and combinations to determine the number of ways an event can occur." Overall, the elementary level is clear and specific. For example, students will "…identify…figures by their properties, e.g., symmetry, number of faces, two- or three-dimensionally, no right angles."

The **science** standards are also clear and specific about what all students should know and be able to do. High school students, for instance, should be able to "compare and contrast mitosis and meiosis in their roles in single and multi-celled organisms"; and "explain the process whereby DNA directs the synthesis of proteins from amino acids." The scientific method is also good at the elementary level: "Describe the scientific method including: identification of a problem; research literature review; development of an hypothesis or research question; design of experiment or research…."

The **social studies** standards are not specific about the U.S. and world history students should learn. Most of the content is vague, and many of the standards are repeated. For instance, high school students should be able to "analyze patterns of social and cultural continuity in various societies." And, middle school students should know how to "write a report comparing effects of trade in two or more parts of the world." The civics standards are also broad. Middle school students: "Trace historical developments of individual rights and freedoms in the United States." What "historical developments" are important for students to learn?

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Vague content	Vague content	Vague content

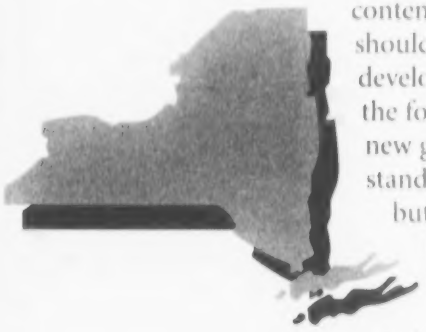
Assessments: New Mexico tests students in grades 4, 6, and 8 in the four core subjects using a combination of the TerraNova test and a customized test that is based on the standards. The state also tests students in the four core subjects in grade 10 using a state-developed assessment based on the standards.

Incentives: Students must pass the 10th-grade assessments to graduate from high school.

Interventions: New Mexico requires districts to develop an Educational Plan for Student Success (EPSS) for students having difficulty meeting the standards. The state does not provide separate funding for the intervention.

New York

Standards: New York first developed *Learning Standards* in the four core subjects, which were of varying quality. To clarify the content and skills students should learn, the state developed guides also in the four core subjects. The new guides strengthen the standards in all subjects, but could be even more helpful to teachers, parents, and others if the knowledge students are expected to learn was clearly stated for each grade.



Based on the guide, the **English** standards are clear and specific across all levels. PreK-1 students, for example, should be able to "capitalize proper names and the letter 'I' [and]…use beginning of sentence capitalization and end punctuation." Seventh- and eighth-grade students should be able to "identify author's point of view, such as first person narrator and omniscient narrator." And high school students should be able to "distinguish between different forms of poetry such as sonnet, lyric, narrative, elegy, epic, and ode, and recognize how the author uses poetic form to convey message or intent." The guide also includes suggested reading lists for each level. The standards address reading basics and writing conventions at all levels, but it is important to emphasize how essential the need is for the standards to provide explicit guidance to teachers and others on the basic knowledge and skills students must learn if they are to develop into proficient readers and writers. This guidance should be in place for *each* grade beginning at the early elementary level to ensure the immediate identification of and expedient intervention to any student who may be struggling to read.

The new **math** guide clarifies and strengthens the standards across all three levels. For instance, third- and fourth-grade students should be able to "study properties of solid figures (vertices, line segments, edges, and angles)." And, a seventh- or eighth-grade student should be able to "identify and construct basic elements of geometric figures (altitudes, midpoint, diagonals, angle bisectors and perpendicular bisectors; and central angles, radii, diameters and chords of circles)." At the high school level, all students must meet the standards listed under "Math A" and " Math B" in the guide. These standards are very explicit about the knowledge students should learn. For example, a "study of triangles: [should include] classifications of scalene, isosceles, equilateral, acute, obtuse, and right; sum of the measures of the angles of a triangle; exterior angle of a triangle, base angles of an isosceles triangle."

The **science** standards are generally clear and specific at the middle and high school levels. High school students, for instance, should be able to "explain chemical bonding in terms of the motion of electrons [and] compare energy relationships with an atom's nucleus to those outside the nucleus." And middle school students should "observe and describe properties of materials, such as density, conductivity, and solubility." The earth science is limited at these two levels, but is clear and specific. For example, high school students need to "explain complex phenomena, such as tides, variations in day length, solar insolation, apparent motion of planets, and annual traverse of the constellations." The elementary level is quite limited and lacks specific earth science content. For example, elementary students should "describe the patterns of daily, monthly, and seasonal changes in their environment." What essential content should elementary students learn to meet this standard?

The new *Social Studies Resource Guide* provides needed clarification to the **social studies** standards. The guide includes specific U.S. and world history that is not addressed in the standards. For example, a middle school standard requires students to "investigate key turning points in New York State and United States history and explain why these events or developments are significant." This standard, however, is unclear about the "events" and "key turning points" students should learn. The "resource guide" provides more specific content and skills: Students will "understand the series of events and resulting conditions which led to the American Civil War." The standard is further clarified by a content outline that includes specifics such as "Territorial Expansion and Slavery [to include]: the secession of Texas, 1836; the Mexican War, 1846-48; Oregon Territory…[and the] Failure of Political Compromise [to include]: Compromise of 1850;

Kansas-Nebraska Act, 1854; Founding of the Republican Party, 1854-56; Lincoln-Douglas debate, 1858...." It is important to note that specific history is ignored at the elementary level until fourth grade and, at times, the standards pay little attention to what students are supposed to do with this detailed content. What students should be able to do with the content is just as important as the need for the content to be clear and specific.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	Vague earth science	✔	✔
Social Studies	✔	✔	✔

Assessments: Students are currently tested in science and social studies in sixth grade using state-developed tests that are not based on the standards. Beginning in 1999, New York will test students in English and math in grades 4 and 8 using new state-developed tests based on the standards. To help describe the new state assessments, New York developed draft *Test Samplers* in math and English in grades 4 and 8, which include test items, scoring rubrics, and examples of student work. Teachers, parents, and students may find these documents useful for understanding the type of work expected on the state assessments. In spring 2000, new science tests will be given in grades 4 and 8, and social studies will be given in grade 5. Eighth-grade social studies will also be administered in spring 2001.

New York is currently phasing out the high school "competency" exams and phasing in new *Regents* exams based on the standards in the four core subjects. The *Regents* exams will be fully in place with the class of 2003.

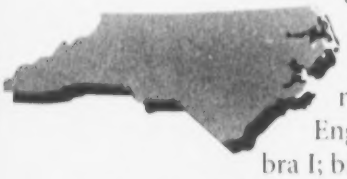
Incentives: The class of 1999 is the last class with the choice of taking the "competency" exams or the more rigorous *Regents* exams to graduate from high school. The "competency" exams are based on a sixth- to ninth-grade level of work and are not aligned with the standards.

Beginning with the class of 2000, students will have to pass a new English *Regents* exam, based on the standards, and the current "competency" exams in math, science, and social studies. The class of 2001 will take the English and new math *Regents* exams and the science and social studies "competency" exams. The class of 2003 will be the first required to pass *Regents* exams in English, math, global history, U.S. history/government, and a science course chosen by the student. Beginning in 2000, students can also earn the *Advanced Regents Diploma* for passing eight *Regents* exams including a foreign language.

Interventions: New York requires districts to provide intervention based on student performance on the fourth- and eighth-grade state assessments in English and math, and for all subjects at the high school level. The state provides funding for the intervention.

North Carolina

Standards: North Carolina's standards in the four core subjects are described in the *Standard Course of Study*. The high school level is organized by courses, and all students must meet the standards in English I, II, III, and IV; algebra I; biology; U.S. history; and economic, legal, and political systems. To supplement and clarify the standards, the state developed *Teacher Handbooks*.



The **English** standards are organized as one large K-12 cluster providing no guidance on what students need to learn or when they should learn it. "Appendix C" in the handbook, however, clarifies the reading and writing knowledge and skills that students are expected to learn at the elementary level, but it does not clarify the middle and high school levels. For instance, kindergarten students should be able to "recognize most beginning consonant letter-sound associations in one-syllable words." And, first graders "can segment the phonemes of one-syllable words." Seventh graders, however, are expected to "verbalize effective and ineffective reading strategies." What are the some of the "effective" reading strategies seventh graders should be using? It is also not clear, however, if teachers, parents, and students have access to this supplemental document.

North Carolina adopted new **math** standards this year, but the final standards were not available for review. The draft standards are generally clear and specific across all three levels. Fourth-grade students should, for example: "Identify intersecting, parallel, and perpendicular lines and line segments and their midpoints…," and eighth-grade students "determine the effect on the volume of solid figures when one or more dimension is changed."

The **science** standards are presented as a list of terms only, but the handbook significantly clarifies the content and skills students should learn. The standards at the elementary and middle levels are generally clear and specific. But, at times the standards emphasize skills over specific content. Third-grade students, for instance, need to "investigate…[and] explore the properties of solutions and mixtures as systems. [And] describe properties of common elements and explain the difference between elements and compounds." What are some of the key concepts and principles that third graders should learn to meet the standard? The high school life standards are fairly clear and specific: "Demonstrate knowledge of the chemical basis of heredity…[by] describ[ing] and discuss[ing] the structure, function, and replication of DNA and RNA," but there are currently no common earth or physical science standards that high school students must meet. Beginning with the class of 2004, students will be expected to meet the earth/environmental and physical science standards, which are clear and specific.

The **social studies** standards are strongest at the high school level. For example, "evaluate the arguments of The Federalist and The Anti-Federalist papers as expressions of differing theories about self-government." U.S. history is not even addressed until the eighth grade, and world history is ignored at the elementary level and vague at the middle level. For instance, seventh graders will "identify the origins, characteristics, and influences of major groups of people in Africa and Asia." The handbook includes examples of how the standards might look in a classroom, but it does not clarify the content students should learn.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	Vague reading basics and writing conventions	Vague writing conventions
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	No U.S. or world history	Vague U.S. and world history	✔

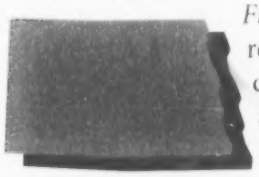
Assessments: North Carolina tests math and reading in grades 3 through 8; writing in grades 4, 7, and 10; and gives end-of-course exams in English I and II; algebra I; biology; U.S. history; and economic, legal, and political systems. Students also take reading and math "competency tests" in the eighth and 10th grades. All of these state-developed tests are based on the standards. (End-of-course exams in English III and IV, algebra II, and geometry will be added in the future.)

Incentives: North Carolina requires districts to consider student performance on the state assessments when making promotion decisions. In addition, all students must pass the eighth-grade "competency tests" to graduate from high school. The test is based on the eighth-grade standards.

Interventions: Districts are required to provide intervention to students who fail to pass the state assessments. The state funds intervention at schools that have been designated low performing.

North Dakota

Standards: North Dakota's standards in the four core subjects are described in the *Curriculum Frameworks*. The state is currently writing new science standards, but no drafts were available for review.



The **English** standards include some specific content, but it is overshadowed by a heavy emphasis on skills across all levels. In fourth grade, for example, students should "understand the story elements. Make connections among works of literature. Understand the characteristics of various simple genres." What "elements," "connections," and "characteristics" should fourth graders learn? The attention to the writing forms is also quite limited. Eighth graders are expected to "initiate writing for various purposes," and 12th-grade students must "use a wide variety of writing forms."

The draft **math** standards are generally specific. For example: "The [fifth- to eighth-grade] student: understands the properties of integers and rational numbers…associative, commutative, and distributive properties, property of one, property of zero, substitution properties." It is important to note that the organization of the document separates the content and skills into two separate lists, which can make it cumbersome to use.

The **science** standards are not clear or specific about the content students should learn. By the end of fourth grade, for example, students should "demonstrate the ability to: identify the components of basic biological and physical systems." What are some of the "components" fourth graders should learn? And 12th graders should be able to "analyze biological, chemical and physical systems, identify their components and describe their interactions." What specifically is essential for high school students to learn?

The **social studies** standards are not specific about the U.S. history, world history, or civics content students should learn. For example: "Examine and understand the events, people and ideas that have contributed to the history of the United States" (grade 4); "analyze and apply how societies have been and are organized in the western and nonwestern world and how people have interacted throughout history" (grade 8); and "analyze and evaluate the contributions and/or importance of individuals who have made a significant difference in history" (grade 12).

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague content	Vague content	Vague content
Math	✔	✔	✔
Science	Unclear and Vague	Unclear and Vague	Unclear and Vague
Social Studies	Vague content	Vague content	Vague content

Assessments: Beginning in the 1998/99 school year, North Dakota will test students in the four core subjects in grades 4, 6, 8, and 10 using the California Test of Basic Skills and the commercially developed Test of Cognitive Skills. According to officials, the Test of Cognitive Skills is aligned with the standards.

Incentives: There are no incentives for students to meet the standards.

Interventions: North Dakota does not require districts to provide intervention to students having difficulty meeting the standards.

Ohio

Standards: Ohio's standards are located in the *Model Competency-Based Programs* covering the four core subjects. The state also produced a variety of supplemental documents to clarify the standards.

The **English** standards are quite clear and specific at the middle and high school levels. For example, ninth graders need to read a fictional selection and "identify structural elements of literature (e.g., plot, theme, character, setting)"; and "identify literary devices, such as simile, metaphor, pun, alliteration, and personification." The elementary standards are also generally clear and specific. At times, however, the writing conventions and writing forms are unclear. Students in fourth grade, for example, should "edit work before publishing...." The standards do not provide specific guidance on what students should learn to make the appropriate "edits" to their work.

The **math** standards are clear and specific at all levels. Fifth graders, for instance, will "explain in words why order does not make a difference for addition and multiplication, but does for subtraction and division." And seventh graders will "compare, order, and determine the equivalence of whole numbers, fractions, decimals, percents, and integers." The high school geometry and algebra standards are further clarified by the ninth- and 12th-grade *Fact Sheets*. For example, a standard asks ninth graders to "recognize, classify, and use characteristics of lines and simple two-dimensional figures." The *Fact Sheet* adds: "Students will need to be familiar with concepts such as perpendicular, vertical, and parallel and to be knowledgeable about triangles, quadrilaterals, pentagons, and circles." It is not clear, however, if teachers, parents, and students have access to these supplemental documents.

The **science** standards are not specific about the scientific knowledge students should learn. For example, 10th-grade students are expected to "formulate explanations for the influences of objects and organisms on each other over time." Meanwhile, sixth-grade students are expected to "investigate various impacts of biological and geological activity on the earth." However, the state *Fact Sheets* (for the high school level) and *Information Guides* (for the elementary and middle school levels) complement the standards by providing very clear and specific content. For example, sixth graders should "describe simple cycles of the earth, sun and moon ...that produce eclipses (solar and lunar), a new moon, high and/or low tides, seasons, phases of the moon (crescent to full)...." It is not clear, however, if teachers, parents, and students have access to these supplemental documents.

The **social studies** standards are not clear or specific about the U.S. or world history content students should learn. For example, eighth graders should be able to "discuss the impact of the initial contacts between Europeans and Native Americans and explore the enduring legacy of those contacts." This standard is more specific than most of Ohio's middle school history standards, but it fails to name any specific historical events, people, or places that all students should learn. The content at the high school level is slightly more explicit than at the other two levels, but is still broad. Students in ninth grade, for instance, should be able to "examine the general trend of government from 1815 to 1919 to become more inclusive of various groups and representative individuals to American society and identify contributions to this trend."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Vague U.S. and world history	Vague U.S. and world history	Vague U.S. and world history

Assessments: Ohio tests all students in grades 4, 6, 9, and 12 in the four core subjects using state-developed tests based on the state standards. The state is developing new 10th-grade exams and is phasing them in to replace the ninth-grade exams. The new exams will be fully implemented beginning in 2001. To help describe the assessments, Ohio developed a variety of documents including *Resource Manuals* and *Fact Sheets*, which include test items, scoring rubrics, and examples of student work. Teachers, parents, and students may find these documents useful for understanding the type of work expected on the state assessments.

Incentives: Any fourth-grade student who is unable to pass the fourth-grade reading test after three attempts and after receiving extra academic assistance in the fifth grade, is retained. Students must also pass the ninth-grade reading, writing, math, and citizenship tests to graduate from high school, and this year's 10th graders must pass the ninth-grade science tests. These tests are based on the eighth-grade standards. The class of 2005 will be the first required to pass the new 10th-grade tests based on the 10th-grade standards in the four core subjects to graduate from high school.

Students can earn an "honors diploma" for taking advanced coursework, maintaining a certain grade-point average, and scoring at "honors" level on the 12th-grade assessments or by reaching a certain score on the SAT or ACT tests. Beginning with the class of 1999, students who pass the 12th-grade tests in the four core subjects will also earn $500 to use for college.

Interventions: Ohio requires districts to provide intervention for students in grades 1 through 8 who are having difficulty meeting the standards. Ohio does not provide separate funding for intervention. Instead, districts are expected to use existing funds allocated by the state to fund the intervention.

Oklahoma

Standards: Oklahoma's standards in the four core subjects are described in the *Priority Academic Student Skills*, and the standards assessed by the state are highlighted.

Many of the **English** standards are repeated from the second grade on. There are no reading basics, writing conventions, or writing forms at the elementary level, and the standards are vague at the middle and high school levels as well. Broad standards, e.g., "read for a variety of purposes such as for entertainment and for information" are repeated throughout all grade levels. Standards unique to each level are equally vague: "Determine strategies appropriate to text and context" (grades 6-8).

The **math** standards focus heavily on skills without any attention to specific content. For example, fourth-grade students are expected to "apply geometry to practical, everyday situations"; seventh graders are expected to "incorporate patterns and functions to represent and solve routine and nonroutine problems"; and high school students to "apply algebraic processes to become a creative mathematical problem solver in real-life situations" and "use various models to describe real-world data." What are appropriate "geometry," "patterns and functions," and "algebraic processes" for a fourth, seventh, and 12th grader to "apply," "incorporate," or "use" respectively?

More than half of the **science** standards at the middle and high school levels are repeated verbatim from the elementary level. The standards are not clear or specific about the knowledge and skills students should learn. For example, standards that ask students to "use observable properties to classify a set of objects, organisms, or events" or "report data in an appropriate manner" are repeated throughout the grades. The standards lack any specific scientific content for students to learn.

The **social studies** standards lack specific world history content at all three levels. Each level includes some U.S. history, but it is limited. High school students, for example, are expected to "chart the growth of sectional conflict between 1820 and the Civil War, including the Missouri Compromise, the Compromise of 1850, the Kansas-Nebraska Act, and the Dred Scott decision." And, fifth graders need to be able to "identify major events of the Revolutionary War period." This standard would be stronger if some specific events were included. There is, however, no specific U.S. history at the elementary level until the fifth grade.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	No reading basics or writing	Vague content	Vague content
Math	Unclear and vague	Unclear and vague	Unclear and vague
Science	No content	No content	No content
Social Studies	Vague world history	Vague world history	Vague world history

Assessments: Oklahoma tests students in the four core subjects in grades 3 and 7, using the Iowa Test of Basic Skills, and at grades 5, 8, and 11 using state-developed tests based on the standards.

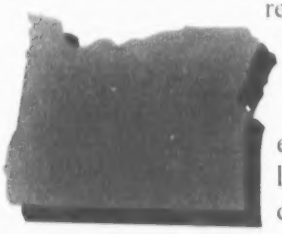
Incentives: All students must pass the eighth-grade reading test to obtain a drivers license.

Interventions: Districts are required to provide intervention to students who fail any of the state-developed assessments. The state provides funding for reading intervention in grades 1-3.

Oregon

Standards: Oregon's standards are supplemented and clarified by the recently approved *Teaching and Learning Standards.*

The **English** standards at the middle and high school levels are clear and specific, especially in reading comprehension. High school students, for instance, should be able to "identify the purpose of literary devices, e.g., figurative language, allusion, sound devices, versification, foreshadowing, imagery, irony, hyperbole, dialect, and determine their impact, e.g., figurative language provides vivid images, sound devices in poetry produce a poem with musical quality." The standards, however, do not provide specific guidance at the elementary level for preparing students to read. The standards are written with the assumption that students are already readers. Oregon also developed *Reading* and *Writing Assessment and Instruction* documents, which include numerous examples that illustrate how the standards might look in a classroom.



The **math** standards are generally clear and specific across all levels. Fifth graders, for instance, will "use factors and multiples to reduce fractions to lowest terms and identify fraction equivalents." Eighth graders will know "the Pythagorean Theorem… formulas for finding the number of degrees for each interior angle of a regular polygon…circumference and area formulas for circles." And, 10th graders "will solve problems with any of the units…length, perimeter, weight, area, volume, times, temperature, money, angle including squared and cubic units where appropriate…[and] determine the margin of error, error due to rounding, and the degree of accuracy of measurement…."

The **science** standards are generally clear and specific at the middle and high school levels. One standard, for instance, expects students to "understand that two or more elements can combine to make a compound. For example, the elements hydrogen and oxygen combine to make the compound water. [And] distinguish between mixtures and compounds." The elementary level does not include specific content until the fourth and fifth grades where, for example, students will "predict and explain which way an object will move based upon its mass, composition, and the force exerted upon it."

U.S. and world history in the **social studies** standards is clear and specific across all three levels. For example, elementary students need to know "events which led to a declaration of independence (attempts to recoup costs of the Seven Years War; 'no taxation without representation,' prohibition of settlement west of the Appalachians, Boston Massacre, Boston Tea Party, boycotts, Lexington and Concord)…." And, high school students will "understand the causes, characteristics and impact of political, economic, and social developments including:…[the] Chinese Revolution in 1911 overturns Manchu Dynasty; China becomes a republic (role of Sun Yat-sen); Kuomintang formed; dissatisfaction with Nationalist Party and appeal of Communists…."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague reading basics	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	✔	✔	✔

Assessments: Oregon tests students in grades 3, 5, 8, and 10 in English and math, and in science in grades 5, 8, and 10 using state-developed assessments based on the standards. Social studies tests are being piloted in grades 5, 8, and 10 and will be in place in 1999. To help describe the assessments, Oregon developed a variety of documents, which include test items, scoring rubrics, and examples of student work. Teachers, parents, and students may find these documents useful for understanding the type of work expected on the state assessments.

Incentives: There are no consequences for students who do not meet the standards, but Oregon is phasing in a *Certificate of Initial Mastery* (CIM), that students can choose to strive for. The CIM will be awarded to students who pass the 10th-grade tests in the four core subjects. English and math tests will be in place in spring 1999, science in

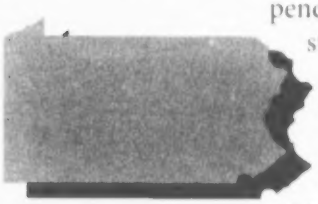
spring 2000, and social studies in spring 2001. Students are not required to pass the tests to graduate from high school. But, employers across the state have pledged their support and are planning to require the certificate as a condition of employment. The state is also developing a *Certificate of Advanced Mastery* for students who successfully meet the 12th-grade standards.

Oregon is also creating standards for college admissions. According to state officials, the "Proficiency-Based Admission Standards System" (PASS) builds directly on the state's K-12 standards. High school students who meet the PASS standards, which cover six academic areas including the core subjects, will be eligible for admission to any Oregon public college or university. The admission program is being refined, but will be phased in beginning in 2001 and will be fully implemented by 2005.

Interventions: Oregon requires all districts to provide intervention to students not meeting the performance standards in English, math, and science. Intervention will also be provided for social studies once the tests for this subject are in place. The state does not provide any direct funding and expects districts to use their existing funds allocated by the state.

Pennsylvania

Standards: Pennsylvania's new math and English standards are final, and new science standards are pending approval. New social studies standards are being written, but no drafts were available for review.



The **English** standards are clear and specific across all levels. Fifth graders, for example, should be able to "write poems, plays and multi-paragraph stories [to include] ...detailed descriptions of people, places and things... relevant illustrations... dialogue...literary conflict...literary elements ['setting, plot, theme' and] literary devices ['figurative language—personification, simile, metaphor']." And, high school students will be able to "evaluate text organization and content to determine the author's purpose and effectiveness according to the author's theses, accuracy, thoroughness, logic, and reasoning."

The **math** standards are also clear and specific. For example, fifth-grade students need to: "Calculate the probability of a simple event.... Determine the probability of an event involving 'and', 'or' or 'not'.... Find all possible combinations and arrangements involving a limited number of variables.... Make a tree diagram and list the elements in the sample space." And 11th-grade students will "design and conduct an experiment using random sampling, describe the data as an example of a distribution using statistical measures of center and spread, and organize and represent the results with graphs. (Use standard deviation, variance and t-tests.)" The document also includes a glossary to define many of the mathematical concepts noted in the standards.

The draft **science** standards are also clear and specific at all three levels. For example, by the end of seventh grade, students should be able to "discern concepts about the structure and properties of matter.... [And] identify that elements are made up of minute particles called atoms, and atoms are composed of protons, neutrons and electrons whose properties are measurable." By the end of 10th grade, students should be able to "explain different types of inheritance (e.g., dominant, recessive, co-dominant, multiple allele, sex-linked, and sex-influenced traits)."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Currently Under Development		

Assessments: Pennsylvania tests math and reading in grades 5, 8, and 11 and writing in grades 6 and 9 using state-developed, norm-referenced assessments that are not aligned with the standards. According to state officials, the assessments will be revised (as needed) to align with the standards and will be criterion-referenced. The state is also planning to add an 11th-grade writing test, but has not decided if science or social studies assessments will be developed.

Incentives: There are no consequences for students who do not meet the standards, but high school students who achieve a score of "proficient" or above on the state assessments (that are based on the standards) will have a "Commonwealth Seal" attached to their diploma. The state hopes that employers and colleges will require candidates for employment or admission to college to have earned this seal.

Interventions: Beginning in 2001/02, Pennsylvania will require districts to provide extra academic assistance to students who are not meeting the third- and fifth-grade reading and math standards. Districts will develop their own criteria for identifying students in need of assistance, but student results on the fifth-grade assessments must be one of the indicators used. It is not clear if the state will provide funding for the intervention.

Puerto Rico

Standards: Puerto Rico's standards are in the four core subjects and the math, science, and social studies standards are supplemented by *Curricular Guides/Frameworks.*

The **Spanish** standards are not specific about the content students should know. There are no reading basics and only minimal attention is paid to writing. A K-3 student, for example, "reads with the proper intonation and speed, making necessary pauses." To meet this standard, beginning readers will need to develop specific knowledge and skills that the standards do not address. The standards also lack basic content guidance for beginning writers. Standards such as: "The student: Writes simple texts with sentences which continue to grow in complexity with respect to structure and meaning" do not provide any specific content or skills for students to learn. The writing standards are a bit more specific in the upper levels (e.g., "The student writes narrative, descriptive, argumentative, and expository paragraphs utilizing the appropriate structure as criteria…use of appropriate punctuation marks.")

The **math** standards are generally clear and specific. The concepts and skills are presented as two separate lists of terms, and although the lists present clear content, the relationship between the lists is not always clear. In other words, the standards are clear about what students need to know, but they are not always clear about what they should be able to do with the knowledge. For instance, in geometry, students in grades 7-9 need to "identify, describe, compare, and classify geometric figures." In order to meet this standard, students need to know "indefinite terms (point, straight line, plane…); ray, angle segment; plane and three-dimensional figures; symmetry, congruence, and similarity; relationships among straight lines; polygons: triangles, quadrilaterals, etc.; circles."

The **science** standards are clear and specific. For example, students at the middle and high school levels need to "explain the energy transformation, e.g., photosynthesis and cellular respiration, which occur in the ecosystem and in cellular processes." The knowledge that middle school students need to meet this standard includes knowing that "photosynthesis is the utilization by plants of solar energy in order to produce food." High school students need to know that "photosynthesis is the process by which plants transform light into chemical energy and store it as complex molecules."

The **social studies** standards are not specific about the U.S. or world history that students should know throughout their school careers. A high school student "evaluates historical relationships as part of the process of reconstruction and interpretation of the past, which helps…to understand the present." An elementary student "recognizes similarities and differences among the human beings who populate the world." These standards provide no specific guidance on the knowledge students need to acquire to meet the standards.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
Spanish	No reading basics; Vague writing conventions	No reading basics; Vague writing conventions	Vague writing conventions
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Vague U.S. and world history	Vague U.S. and world history	Vague U.S. and world history

Assessments: Puerto Rico assesses students in grades 3, 6, 9, and 11 in the four core subjects using tests based on the standards.

Incentives: There are no incentives for students to meet the standards.

Interventions: Puerto Rico does not require intervention for students having difficulty meeting the standards.

Rhode Island

Standards: Rhode Island's standards are described in the English, math, and science *Curriculum Frameworks.* The state does not have social studies standards, and there are no plans to set any in the future.

The **English** standards are not clear or specific about the content or skills students should learn. For example, at the elementary level students need to be able to "connect a wide range of experiences through text"; and "identify strategies used to construct and convey meaning." And, high school students are expected to "evaluate varied texts for making decisions and solving intellectual problems."

The **math** standards are also not clear or specific about the mathematical content or skills students should learn. For example, high school students need to "represent problems with geometric models"; and "develop and validate conjectures." And, middle school students will "have an intuitive understanding of systems of measurement." What do these standards mean? What do students need to know and be able to do at each level?

The **science** standards are very clear and specific. For example, high school students should know that "atoms are made up of a positive nucleus surrounded by negative electrons. An atom's electron configuration, particularly the outermost electrons, determines how the atom can interact with other atoms. Atoms form bonds to other atoms by transferring or sharing electrons." Process skills are included in the "Embedded Assessment" and "Summative Assessment" sections of the document, and are not integrated directly with the content. Based on the above content, a student "writes atomic configuration of elements and identifies and/or defines possibilities of ionic, covalent, and metallic bonds."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Unclear and vague	Unclear and vague	Unclear and vague
Math	Unclear and vague	Unclear and vague	Unclear and vague
Science	✔	✔	✔
Social Studies	No standards	No standards	No standards

Assessments: Rhode Island assesses writing in grades 3, 7, and 10 using state-developed tests based on the standards. The state also tests English in grades 4 and 8 and math in grades 4, 8, and 10 using the commercially developed New Standards Reference Exams. According to officials, these assessments are also aligned with the standards. To help describe the state assessments, Rhode Island developed math and writing assessment guides that include test items, scoring rubrics, and examples of student work. Teachers, parents, and students may find these documents useful for understanding the type of work expected on the state assessments.

Beginning in spring 1999, the state will assess English in grade 10 using the New Standards exams. The state has no plans to add science.

Incentives: There are no incentives for students to meet the standards.

Interventions: Rhode Island does not require districts to provide intervention to students struggling to meet the standards.

South Carolina

Standards: South Carolina's standards in the four core subjects are described in the state *Frameworks.*

To clarify the standards, supplemental *Academic Achievement Standards* were developed. In 1998, South Carolina further clarified student expectations by developing *Curriculum Standards,* which guide teachers in understanding the content knowledge and skills students should master at each grade.

Based on the new *Curriculum Standards,* **English** is clear and specific at each level. For instance, a fourth-grade student "will edit final copies of writings. Use subject-verb agreement. Avoid double negatives. Use pronoun 'I' correctly in compound subjects." Seventh graders "...will read a variety of poetry...explain how sentence structure, line length, and punctuation convey mood or meaning of a poem. Describe how rhythm contributes to the purpose or theme of the poem." And ninth graders "...will read dramatic selections. Describe how stage directions help the reader understand a play's setting, mood, characters, plot, and theme." The high school level could be even stronger if some of the writing conventions were more explicit. For example, students should "plan and organize ideas through writing...organize ideas into a logical sequence...Revise writing for clarity and content of presentation." None of these skill statements is supported by specific content knowledge.

The *Curriculum Standards* in **math** are also very clear and specific across all three levels. For example, first graders need to "...write numerals 0 through 100 and identify odd and even numbers up to 100." Sixth graders "...will identify and draw chords, sectors, and arcs of a circle." And high school students "...will determine the slope of a line when given an equation of the line, the graph of the line, or two points on the line. Slope will be described as rate of change and will be positive, negative, zero, or undefined...."

The *Curriculum Standards* in **science** are also clear and specific at all three levels. Third graders "...will demonstrate, classify, and state similarities and differences of the major components of soil, its origin, and its importance to plants and animals including humans, and will understand that earth materials (rocks, minerals, water, soil, and fossils) have unique properties. Key concepts include: soil provides support and nutrients for plant growth; topsoil is a natural product of subsoil and bedrock; rock, clay, silt, sand, and humus are components of soils...." Eighth graders "...will investigate and explain the impact of Copernicus and Galileo on modern scientific thought." And high school students "will use the theory of plate tectonics to explain changes in Earth's crust...[and to] describe how convection currents may be the driving force for plate tectonics."

In **social studies,** only the new draft framework was available for review. The middle and high school levels include specific U.S. and world history, but at times the standards need to be more explicit, e.g.: "Compare characteristics of societies in the Americas, Western Europe, and Western Africa that increasingly interacted after 1450" (grades 11-12). History at the elementary level, however, is stated rather broadly. In fifth grade, for example, students need to "...demonstrate an understanding of the major developments in the United States from the end of World War II through the present. The student should be able to list events and people who influenced the United States during this period...." But no specific reference is made to the essential people or events all students should know about.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Vague U.S. and world history	✔	✔

Assessments: Beginning in the 1998/99 school year, South Carolina will give new state-developed assessments based on the standards in grades 3 through 8 in English and math. Science tests will be given in the 1999/00 school year and social studies in the 2001/02 school year. These tests will also be given in grades 3 through 8.

South Carolina also administers high school tests in reading, writing, and math that are not based on the standards. The state is field testing new high school tests, based on the standards, in English,

math, and science (social studies will be added later) to replace the current high school tests. The new English and math tests will be given in spring 2001, science in spring 2002, and social studies in the 2003/04 school year.

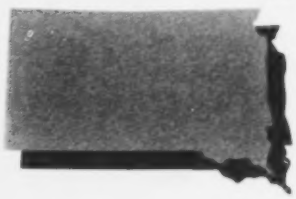
Incentives: To graduate from high school, students must pass the high school tests in reading, writing, and math. The current exit exams measure eighth-grade level work and are not based on the standards. Students in the class of 2003 must pass the new high school assessments based on the standards in English, math, and science. Beginning in 2004, students will also have to pass the social studies test.

Students who meet the graduation requirements, maintain a 3.0 grade point average, and complete the "college-" or "tech-prep program" will earn the "Superior Students for Today and Tomorrow" (STAR) diploma. STAR students who earn at least an 1100 on the SAT will also receive $500 for use at any accredited higher education institution in South Carolina.

Interventions: Districts are required to provide intervention to students who fail any of the state assessments. This year the legislature also passed a requirement that prohibits students who fail any of the exit exams from re-taking the exams before receiving extra academic help. The state provides funds for the intervention programs.

South Dakota

Standards: South Dakota is drafting new standards in the four core subjects.



The middle and high school **English** standards are clear and specific. Seventh graders, for instance, "analyze characterization through a character's thoughts, words, and deeds; the narrator's description; and what other characters think, say, and do." Reading at the elementary level is clear and specific, but the writing standards are rather vague. A strong elementary reading standard asks students to "identify and define the presence of figurative language in literary works, including simile, metaphor, hyperbole, and personification." In writing, however, students should be able to "revise writing for specific vocabulary," and "edit final copies for grammar, punctuation, and spelling." The standards do not clarify the appropriate "grammar" or "punctuation" for elementary students.

The **math** standards are very clear and specific. For example, students in second grade are expected to "describe the inverse relationship between addition and subtraction and use it to write equations and compute, e.g., 35 + _ = 47, 47 - 35 = _." Sixth graders will "identify and graph ordered pairs in the four quadrants of a coordinate plane." And high school students will "determine the zeros, y-intercepts, end behavior, relative maximum and minimum points, and symmetry of polynomial functions and rational functions and graph the functions."

The **science** content and skills are also clear and specific. For example, second graders will "investigate and understand processes involved with changes in matter from one state to another, e.g., condensation, evaporation, melting, freezing, expanding, contracting." Eighth graders will "investigate various models of atomic structure including Bohr and Cloud (quantum) models." And high school students will "relate gravitational or centripetal force to projectile or uniform circular motion."

The **social studies** standards are not as specific as the other core subjects. The high school level is clear and includes solid content. For example: "Analyze and explain the causes, effects, and major events of the Great Depression, e.g., agricultural recession, Stock Market Crash, collapse of international economies, 18th Amendment, New Deal"; and "examine selected cultural and religious changes and discoveries of the Renaissance in Europe, e.g., role of Medicis, Machiavelli's theory of government, Italian city-states." The content at the middle level, however, is quite broad. For example, one standard asks students to "recognize that ancient world cultures have influenced those of America."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague writing	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	✔	Vague U.S. and world history	✔

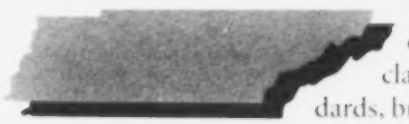
Assessments: South Dakota tests students in grades 2, 4, 8, and 11 in the four core subjects using the Stanford 9. In 1998, the state will also test writing at grades 5 and 9. Beginning in spring 1999, second graders will be assessed in the four core subjects using the Stanford 9. Once the new standards are in place, the state will analyze the standards against the Stanford 9 for alignment.

Incentives: There are no incentives for students to meet the standards.

Interventions: South Dakota does not require districts to provide intervention to students having difficulty meeting the standards.

Tennessee

Standards: Tennessee's standards in the four core subjects are described in the *Curriculum Frameworks*. The state is in the process of developing a supplemental document to clarify the standards, but no drafts were available for review.



The **English** standards focus heavily on skills at the expense of specific content. For example, elementary students should be able to "use elements of the writing process as appropriate to the writing task." Middle level students should be able to "use cognitive strategies to evaluate texts critically." And, high school students should be able to "identify and write for a variety of audiences." What are some of the "elements" of writing elementary students should use? What are some of the "cognitive strategies" a middle school student should know? And, for what kinds of "audiences" should high school students write?

The elementary and middle level **math** standards are not clear about the content knowledge students should learn. Instead, the standards focus on what students need to be able to do. For instance, students should be able to "model and solve problems using algebraic methods" (grades 6-8); or "formulate and solve problems that involve collecting and analyzing data" (grades 3-5). What underlying knowledge should students learn to meet these standards? The high school standards are organized by course, and all students must meet the process standards only, which are completely devoid of mathematical content: "Understand and value the role of mathematical notation"; "draw logical conclusions"; and "use, recognize, and value the varied roles of mathematics in their lives, cultures, and society" are just a few examples of the high school standards.

The **science** standards also focus heavily on skills with little to no attention to scientific content. In fact, the elementary level completely ignores content. The middle and high school levels include some specific physical science; middle school students should know that "no matter how atoms are rearranged, their total mass stays the same." And high school students should know that "during a chemical reaction, energy is absorbed or released." The high school earth and life science standards, however, are weak. For example: "Natural resources and ecosystem dynamics are controlled by the interchanges of matter and energy."

The **social studies** standards are very limited in their treatment of world history. The elementary level has only one broad world history standard, and the middle level is also vague. At the elementary level, world history is limited to this standard: "Explain why explorers came from many nations seeking new routes to the Orient." And, middle school students need to be able to: "explain the rise and decline of ancient civilizations." U.S. history is also broad at the elementary level, but is more specific at the middle level. Elementary students need to "explore how people in the United States have adapted to change" and "recognize how expansion of a new nation created conflict in North America." At the middle level, however, students need to "examine the various plans for Reconstruction and subsequent successes and failures." The high school level is organized around courses, and students must meet the U.S. history, U.S. government, and economics standards. There are no world history standards at this level, and the U.S. history standards are not specific. For example, high school students are expected to "describe the changing role of the United States in world affairs after World War I." But the standards do not define any specific events or people that are important for all students to learn.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague content	Vague content	Vague content
Math	Vague content	Vague content	No content
Science	No content	✔	Vague earth and life science
Social Studies	Vague world and U.S. history	Vague world history	No world history; Vague U.S. history

Assessments: Tennessee tests writing in grades 4, 7, and 11; math and English in grade 9; and gives end-of-course exams in pre-algebra, algebra I and II, geometry, and math for technology I to students

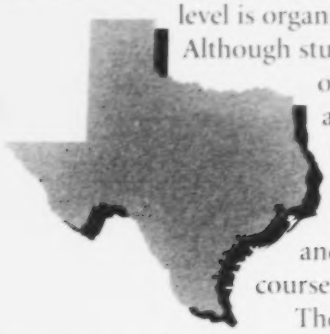
who take the corresponding course. These state-developed assessments are based on the standards. The state also tests all students in the four core subjects in grades 3 through 8 using the commercially developed TerraNova test.

Incentives: All students must pass the ninth-grade tests in English and math to graduate from high school. These tests are based on the eighth-grade standards.

Interventions: Tennessee does not require districts to provide intervention to students struggling to meet the standards.

Texas

Standards: Texas' standards in the four core subjects are described in the *TEKS*. The high school level is organized by courses. Although students can choose some of the courses they take, all students must meet the standards found in the English I, II, and III; algebra I; U.S. history; and U.S. government courses.



The **English** standards are strongest at the elementary level and are generally clear and specific at the high school level. First-grade students, for instance, should be able to "spell single words that have r-controlled vowels such as in burn or star; that have the final consonants f, l, and s such as in miss or doll; and that have ck as the final consonant such as in buck." A high school standard requires students to "demonstrate control over grammatical elements such as subject-verb agreement, pronoun antecedent agreement, verb forms, and parallelism." The middle level's reading comprehension and writing forms are not very specific because most of the standards are simply repeated from the fourth grade.

The **math** standards are clear and specific at the elementary and middle levels. Third graders will "identify patterns in related multiplication and division sentences (fact families) such as 2 x 3 = 6, 3 x 2 = 6; 6 ÷ 2 = 3, 6 ÷ 3 = 2." And seventh graders "use angle measurements to classify pairs of angles as complementary or supplementary." The high school standards and *Exit Level Mathematics Objectives and Measurement Specifications*, which lay out the content and skills students must meet, are also clear and specific. For example: "...student graphs and writes equations of lines given characteristics such as two points, a point and a slope, or a slope and y-intercept."

The **science** standards are generally clear and specific at the elementary and middle levels. In grade 7, students should be able to "identify and illustrate how the tilt of the earth on its axis as it rotates and revolves around the Sun causes changes in seasons and the length of a day." At times, however, the standards stress application over specific content especially at the early grades. For example, fourth graders should be able to "compare adaptive characteristics of various species." What are some of the essential "characteristics" that fourth-grade students should be comparing? There are no common standards at the high school level that all students must meet.

The **social studies** standards pay little or no attention to world history at all three levels. For instance, sixth graders need to "analyze the historical background of selected contemporary societies to evaluate relationships between past conflicts and current conditions." The U.S. history and civics standards are clear and specific at each level. But, specific history is limited at the elementary level until the fourth grade. Fifth graders "identify the contributions of significant individuals during the revolutionary period, including Thomas Jefferson and George Washington." Eighth graders "evaluate the importance of the Mayflower Compact, the Fundamental Orders of Connecticut, and the Virginia House of Burgesses to the growth of representative government." And high school students "evaluate the effectiveness of New Deal measures in ending the Great Depression."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	Vague reading comprehension and writing forms	✔
Math	✔	✔	✔
Science	✔	✔	No common standards
Social Studies	Vague world history	Vague world history	Vague world history

Assessments: Texas tests students in math and reading in grades 3 through 8 and in high school; writing in grades 4, 8, and in high school; and science and social studies at grade 8. The state also administers end-of-course exams in English, algebra I, biology I, and U.S. history for high school students taking the respective courses. These state-developed tests are currently being aligned with the standards, and state officials expect full alignment in 2000.

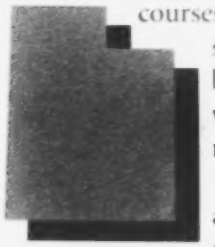
Incentives: All students must pass high school

exit tests in reading, writing, and math to graduate from high school. The tests are based on the eighth-, ninth-, and 10th-grade standards. If students take and pass the algebra I, English II, and U.S. history or biology assessments, then they do not have to take the 10th-grade exit exams. Students can also earn a "Distinguished Achievement Program" seal for meeting advanced requirements set by the state.

Interventions: Districts are required to provide extra academic help to students who fail any of the state assessments. The state funds the intervention.

Utah

Standards: Utah's standards in the four core subjects are described in the *Core Curriculums*. The high school standards are organized by courses, and all students must meet the standards in English 9 and 10, algebra, biology, geography for life, world civilization, and U.S. history/government.



The **English** standards are clear and specific at the elementary and middle levels. Second graders, for example, should be able to "identify word parts in new words (e.g., -tion, -ment, -ary, -sim, -ture, -ent, -ant, -ough, -ought, -igh, -ight)" and "decode consonant diagraphs (e.g., ph, wr, ck)." And middle school students should be able to "recognize how text structure contributes to meaning (e.g., capitalization, commas alone and in a series, plural and possessive apostrophes, double and single quotations marks, paragraph indentation, abbreviations." The high school writing conventions are not specific for that level because they simply repeat from the middle level.

The **math** standards are clear and specific at all levels. Students in third grade should "determine if an angle is equal to, greater than, or less than a right angle by using the corner of a rectangle to make a comparison." Middle level students "differentiate between area and perimeter. Measure and compute perimeter and area for regular polygons." And high school students "determine the slope of a line given two ordered pairs or the slope and point on the line."

The **science** standards are also clear and specific at the elementary and middle levels. Elementary students, for example, "distinguish between crystalline and non-crystalline substances…." And eighth-grade students should be able to "categorize samples of rocks (e.g., sedimentary, metamorphic, igneous)." All high school students need to meet the biology standards, which include limited attention to the physical and earth sciences. For instance, high school students should be able to "illustrate and explain how small molecules combine to form large molecules (e.g., amino acids from proteins, sugars from startch)."

The **social studies** standards lack specific U.S. history, world history, and civics content at the elementary level. The world history at the middle level and the U.S. and world history at the high school level are also extremely broad and unclear. For instance, high school students should be able to "identify and explain the major themes in world history; e.g., social, political, cultural, geographical, economic" or "define key terms, events, and interpretations of American history as established by a variety of historians." U.S. history at the middle level, however, is more specific. For example: "Identify causes and events which led to the American Revolution."

Which Standards Are Clear, Specific, and Grounded in Content?

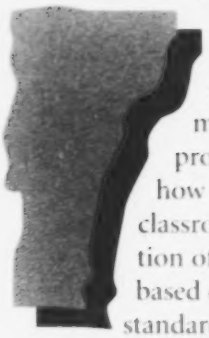
	Elementary Level	Middle Level	High School Level
English	✔	✔	Vague writing conventions
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	No content	Vague world history	Vague world and U.S. history

Assessments: Utah tests students in English, math, and science in grades 1 through 6. The state also administers end-of-course exams in seventh-grade math, pre-algebra, elementary algebra, geometry, intermediate algebra, seventh- and eighth-grade integrated science, earth systems, biology, human biology, chemistry, and physics to students taking the respective courses. All of these state-developed assessments are based on the standards. The state also tests students in the four core subjects at grades 5, 8, and 11 using the Stanford test.

Incentives: There are no incentives for students to meet the standards.

Interventions: Teachers are expected to monitor student progress in language arts and to provide extra academic assistance to struggling students. The state does not provide separate funding for the intervention.

Vermont



Standards: Vermont's standards in the four core subjects are described in the *Framework of Standards and Learning Opportunities*. The state also developed supplemental documents to clarify the standards and provide suggestions to teachers on how to implement the standards in the classroom. Vermont is nearing completion of a review of its standards and based on their findings, will revise the standards as needed. There were no draft changes available for review.

The **English** standards are clear about what students need to do, but are not specific about the knowledge students need to learn. Reading comprehension is vague at each level, and the reading basics and writing conventions are vague at the elementary level and ignored at the middle and high school levels. For example, students in grades 5-8 should be able to "identify the characteristics of literary forms and genres." What are some "characteristics of…genre" students should know to meet this standard? And, PreK-4 students should "write simple messages that are clear to the reader." But, the standards do not define the essential writing conventions that elementary students need to learn to develop into proficient writers and meet the standards. The *Developmental Reading Assessment* document includes developmental reading levels for grades K-3 and sample literature lists for each level.

The **math** standards include clear and specific content (e.g., middle school students "interchange fractions, decimals, and percents; know that irrational numbers neither terminate nor repeat when written in decimal form"), but most of the geometry standards focus heavily on skills at the expense of specific content. For instance, middle school students need to "understand the relationships, properties, and measures within and among one-, two-, and three-dimensional geometric objects." What are some of the "relationships, properties, and measures" students should "understand"? And high school students will "analyze geometric figures and prove things about them using deductive methods." What are some of the "deductive measures" students should use to "analyze geometric figures"?

The **science** standards are not clear about what students need to know and, instead, focus on skills at the expense of specific scientific content. A typical middle level standard asks students to "identify and use anatomical structures to classify organisms (e.g., plants, animals, fungi)." What are some of the key "anatomical structures" students should know to successfully "classify organisms"? And elementary students should: "Provide examples of change over time (e.g., extinction changes in organisms)."

Vermont revised the **social studies** standards to include a list of historical eras for each level. For example, at the middle school level, students will cover "classical traditions, world religions, and giant empires (1000 BCE - 300 CE)." The standards do not provide any elaboration of what is most important for students to learn about these broad eras. The civics standards, however, are strengthened by the revision and are generally clear and specific across all three levels.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague content	No reading basics or writing conventions; Vague reading comprehension	No writing conventions; Vague reading comprehension
Math	Vague geometry	Vague geometry	Vague geometry
Science	Vague content	Vague content	Vague content
Social Studies	No U.S. or world history	No U.S. or world history	No U.S. or world history

Assessments: Vermont tests students in English and math at grades 4, 8, and 10 using commercially developed New Standards Reference Tests. Second-grade reading is also tested using the commercially developed Developmental Reading Test. According to state officials, both of these tests are aligned with the standards. Vermont also tests science in grades 6 and 11 and social studies in grades 6, 9, and 11. These state-developed assessments are based on the standards and are administered in alternate years, i.e., social studies will be administered in the 1998/99 school year, and science will be tested in the 1999/00 school year.

To help describe the state assessments, Vermont

developed multiple assessment documents in math and writing, which include performance levels, test items, scoring rubrics, and examples of student work. Teachers, parents, and students may find these documents useful for understanding the type of work expected on the state assessments.

Incentives: There are no consequences for students who do not meet the standards, but pending approval is an incentive for students to meet the standards. Once approved, the "Governor's Diploma" will be earned by students who meet or exceed the standards, as measured by the state assessments in the four core subjects, beginning in the 2000/01 school year.

Interventions: Vermont requires all schools to establish instructional support teams that set the criteria for identifying students in need of extra academic help. The state provides funding to train teachers to monitor student performance, identify students in need of extra help, and provide intervention.

Virginia

Standards. Virginia's *Standards of Learning* are in the four core subjects.

The **English** standards are clear and specific at the elementary and middle levels. For example, second graders "will use phonetic strategies when reading and writing…[including] consonants and consonant blends in words…common vowel patterns." And seventh graders should be able to "edit final copies to ensure correct use of homonyms, pronoun-antecedent agreement, subject-verb agreement, and verb tense consistency." Specific writing conventions at the high school level are described in the *Blueprint for Secondary English* document. It is not clear, however, if teachers, parents, and students have access to this supplemental document.

The **math** standards are clear and specific at the elementary and middle levels. For example, third graders "will analyze plane and solid geometric figures (square, rectangle, triangle, cube, rectangular solid, and cylinder) and identify relevant properties, including the number of corners, square corners, the shape of faces, and edges." And eighth graders "will graph a linear equation in two variables on the coordinate plane, using a table of ordered pairs." At the high school level, all students must meet the standards found in the algebra and geometry sections, which are also clear and specific.

The **science** standards are also clear and specific at the elementary and middle levels. For example, third graders "will investigate and understand the major components of soil, its origin, and importance to plants and animals including humans. Key concepts include...topsoil is a natural product of subsoil and bedrock; rock, clay, silt, sand, and humus are components of soils…." And sixth graders "will investigate and understand that all matter is made up of atoms. Key concepts include atoms are made up of electrons, protons, and neutrons; atoms of any element are alike but are different from atoms of other elements…." There are no common standards that all students must meet at the high school level. Instead, students choose from a list of science courses.

The **social studies** standards on U.S. history and civics are clear and specific across all three levels. Fifth graders, for example, "will identify causes, key events, and effects of the Civil War and Reconstruction, with emphasis on economic and philosophical differences exemplified by men such as Daniel Webster and John C. Calhoun;…leaders on both sides of the war including Abraham Lincoln, Ulysses S. Grant, Jefferson Davis, Robert E. Lee, Frederick Douglass, and William Lloyd Garrison…" World history is included at each level and is the most explicit at the middle level. For example, eighth graders "will describe, analyze, and evaluate the history of Europe during the Middle Ages from about 500 to 1000 A.D., in terms of its impact on Western civilization, with emphasis on…the Age of Charlemagne and the revival of the idea of the Roman Empire; the invasions and settlements of the Magyars and the Vikings, including Angles and Saxons in Britain…." At the high school level, all students need to meet the standards in the "U.S. and Virginia History" and "U.S. and Virginia Government" sections, which include specific U.S. and world history as well as civics.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	No common standards
Social Studies	✔	✔	✔

Assessments: Virginia tests students in the four core subjects in grades 3, 5, and 8 and in writing in grades 5 and 8. The state also administers high school end-of-course exams in English, writing, algebra I and II, geometry, earth science, chemistry, biology, U.S. history, world history to 1000, and world history 1000 and beyond, to students taking the corresponding courses. These state-developed assessments are based on the standards. Beginning in fall 1998, Virginia will also administer the Stanford 9 in English and math in grades 4, 6, and 9. The state also tests students in reading, writing, and math in grade 6 using a state-developed assessment not based on the standards.

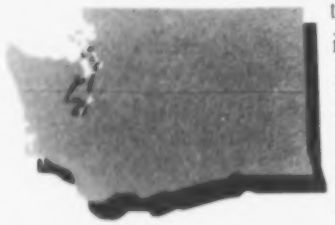
Incentives: Student promotion to grades 4, 6, and 9 must be based in part on student performance on the third-, fifth-, and eighth-grade state assessments in the four core subjects. Each district determines the level of performance needed on the state test for promotion to the next grade.

All students currently must pass the sixth-grade tests in reading, writing, and math to graduate from high school. This test measures a sixth-grade level of work and is not based on the standards. Beginning with the class of 2004, the sixth-grade tests will be replaced by a requirement that students must pass six end-of course exams covering the four core subjects. The new exams will be based on the ninth- through 11th-grade standards. Students in the class of 2004 can also earn an advanced diploma from the state for taking certain advanced courses and an additional end-of-course exam.

Interventions: Districts are required to provide extra academic help to students who fail the sixth-grade exit exams or the third-, fifth-, and eighth-grade assessments. Funding is provided for the intervention.

Washington

Standards: Washington's standards in the four core subjects are described in the *Essential Academic Learning Requirement*. The state also developed new frameworks in communication, reading, and writing and a new *Social Studies Supplement* to clarify the standards.



The **English** standards are heavy on skills without providing the content knowledge necessary to guide teachers and parents on what students need to learn to meet the standards. For example, students at the K-4 level need to "use agreed upon standards to improve reading skills *such as fluency, vocabulary, and comprehension* for self and others." What are the "agreed upon standards"? In grades 7 and 10, students should be able to "correct mechanics and grammar," but the standards do not define any of the specific "mechanics and grammar" that would be appropriate at each grade. The frameworks provide some additional guidance on reading basics and writing conventions at the elementary level and clarify the reading comprehension at the middle and elementary levels. For example, a second grader "identifies and uses adverbs, homonyms, and similes." It is not clear if the state is planning to write frameworks for all three levels (currently the documents only cover K-4 and K-6), but such documents might strengthen the standards at the upper levels.

The **math** standards cover specific content at the elementary and middle levels. For instance, by seventh grade, students should be able to "understand and identify properties and relationships of plane geometry including ray; angle; isosceles; equilateral; and degrees in a circle, triangle, or quadrilateral." The standards are not consistently clear or specific about the content and skills students should learn at the high school level. By 10th grade, students should be able to "compare, describe, and classify 2- and 3-dimensional geometric figures" and "create and solve equations and inequalities." What are some of the geometric properties 10th-grade students should know and be able to "compare, describe, and classify"?

The **science** standards are the clearest and most specific of the four subjects. For instance, a middle school student will "describe how heat energy is transferred by conduction, convection, and radiation." The content is specific, but at times the standards seem to place a greater emphasis on what students should be able to do at the expense of specific content. High school students, for example, are expected to "describe how rocks are transformed through processes at and below the earth's surface, and the rate at which these changes occur." The skill presented here is fairly specific, but the standard fails to name essential "processes" that should be covered in high school.

The **social studies** standards lack specific U.S. and world history references at the elementary and middle levels and are broad at the high school level. For example, middle school students need to "compare and contrast turning points, major ideas, and people in civilizations drawn from different continents"; and high school students need to "work forward from an initiating event to its outcome recognizing cause and effect, multiple causation, or the accidental as factors in history." The *Social Studies Supplement* does not strengthen the standards. Instead, it includes a number of activities that teachers could use in the classroom.

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	Vague reading basics and writing conventions	Vague writing conventions and reading comprehension
Math	✔	✔	Vague content
Science	✔	✔	✔
Social Studies	No U.S. or world history	No U.S. or world history	Vague U.S. and world history

Assessments: Washington administers a second-grade diagnostic reading test and assesses English and math at grade 4 using state-developed assessments based on the standards. To help describe the fourth-grade tests, the state developed *Assessment Samplers*, which includes test items, scoring rubrics, and examples of student work. Teachers, parents, and students may find this document useful for understanding the type and level of work expected of fourth graders. The state also tests grades 3, 8,

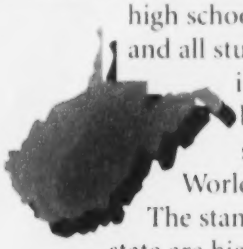
and 11 in English and math and grades 8 and 11 in science and social studies using the Iowa Test of Basic Skills. In spring 2001, the state will add new state-developed English, math, and science tests based on the standards in grades 7 and 10; in spring 2004, new social studies tests also in grades 7 and 10; and in spring 2005 a new fourth-grade science test will be given.

Incentives: Students will have to pass the 10th-grade tests (based on the 10th-grade standards) in the four core subjects to graduate from high school. The state has not determined when students will first need to meet the requirement.

Interventions: Districts are required to develop criteria for identifying second graders who are having difficulty reading and provide them with extra academic help. The state provides funding for districts to develop and implement the intervention.

West Virginia

Standards: West Virginia's standards are described in the *Instructional Goals and Objectives*. The high school level is organized by course, and all students must meet the standards in English 9, 10, 11, and 12; algebra I; coordinated and thematic sciences 9 and 10; U.S. to 1900; World to 1900; and the 20th Century. The standards that are assessed by the state are highlighted, which allows teachers and parents to know the content and skills students will be expected to know on the state assessments.



The **English** standards are clear and specific at each level and pay a significant amount of attention to the basics of reading and writing development. For instance, fifth graders should be able to "spell correctly words ending in 's', 'ss', 'x', 'ch', 'sh', with an 's' added (e.g., gases, boxes, churches, pushes)." The writing forms could be even stronger, however, if the content were more explicit. For example, fifth graders need to "use strategies to write for a specific purpose (e.g., narrative, informative, and persuasive)." What are some of the "strategies" students should know when writing a narrative or persuasive piece? The standards include a list of literary works students should be able to master. This list, however, is only for the 11th grade. Reading lists, at all levels, would help teachers, parents, and students to understand the quality and complexity of the literature students should be able to read.

The **math** standards are clear and specific at all three levels. For example, "using a compass, [fourth graders will] construct a circle, and draw and label the parts of a circle (center, radius, chord, and diameter)." In high school, students will "write an equation of a line using sufficient information such as the graph of a line, two points on the line, the slope and a point, or the slope and the y intercept." At the high school level, all students are expected to meet the standards in the algebra course and the "Review for Assessment" section of the document, which states the content students will be tested on in grades 9, 10, and 11.

The **science** standards are also clear and specific across the three levels. One standard asks third graders to "show that matter can change phases (e.g., condensation, melting, evaporation)." And eighth graders need to "relate climatic patterns and change to Earth's revolution and tilt of the axis."

The **social studies** standards are not as strong as the other subjects. U.S. and world history are virtually ignored at the elementary level and are quite broad at the high school level. For instance, ninth-grade students need to "explain major United States conflicts in terms of causes and consequences"; and "identify, compare, and evaluate the political, economic and cultural contributions of significant world societies." What are some of the "significant world societies" students should know? The middle level is more specific, but at times the standards are broadly stated. For example, sixth graders need to "identify how Europeans benefited by expansion in the New World." Should this include explorers or colonists or both? Which explorers and/or colonial settlements are important to include?

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	✔	✔	✔
Social Studies	Vague U.S. and world history	✔	Vague U.S. and world history

Assessments: West Virginia tests all students in the four core subjects using the commercially developed Stanford 9 for grades 1-11 and the Metropolitan Achievement Test for kindergarten. The state also tests writing in grades 4, 7, and 10. According to officials, all of the tests are aligned with the standards.

Incentives: There are no consequences for students who do not meet the standards, but students who reach a certain level on the state assessments in high school receive "Certificates of Proficiency and Warranty" at graduation.

Interventions: The state requires districts to provide extra academic help to students showing "weaknesses" on the reading, language, and math tests. The state provides funds for summer reading programs.

Wisconsin

Standards: Wisconsin has *Model Academic Standards* in the four core subjects.

The **English** standards are clear and specific across all three levels. Fourth graders, for example, should be able to "recognize and recall elements and details of story structure, such as sequence of events, character, plot, and setting, in order to reflect on meaning." And, by the end of grade 12, students should be able to "punctuate compound, complex, and compound-complex sentences correctly, including appropriate use of dialogue, citations, colons, hyphens, dashes, ellipses, and italics."

The **math** standards are generally clear and specific. For instance, by the end of grade 4, students are expected to "add and subtract fractions with like denominators." And eighth graders, to "extract, interpret, and analyze information from organized and displayed data by using frequency and distribution, including mode and range; central tendencies of data (mean and median); indicators of dispersion (e.g., outliers)." The standards could be even stronger, however, if some of the content were more detailed. For example, fourth graders should be able to "predict outcomes of future events and test predictions using data from a variety of sources." What content should students learn to be able to "predict outcomes" and "test predictions"?

The earth and life **science** standards focus heavily on skills rather than content. For instance, fourth graders "using the science themes," should be able to "develop explanations for the connections among living and non-living things in various environments." The standards include a list of 12 "themes": Should they all be used to meet this standard? What kinds of "connections" should a fourth grader be able to make? And eighth graders need to "describe underlying structures of the earth that cause changes in the earth's surface." What are some of the "underlying structures" that middle school students should learn? Physical science, however, is generally clear and specific. For example, 12th graders "explain the forces that hold the atom together and illustrate how nuclear interactions change the atom." The standards direct users to the National Science Education Standards for "more details of the content." It is not clear, however, if all teachers receive the national standards or how they should be integrated with the Wisconsin standards.

The **social studies** standards do not include specific U.S. or world history at any level. Instead, the standards are presented as broad historical eras and themes. In fourth through 12th grade, for instance, students are expected to study "the world wars and conflicts." And in fifth through 12th grade, students are expected to learn about "the growth of industrialization and urbanization, 1865—1914." What specific "wars" and "conflicts" should students learn about in the fourth, eighth, and 12th grades?

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	✔	✔	✔
Math	✔	✔	✔
Science	Vague earth and life science	Vague earth and life science	Vague earth and life science
Social Studies	No U.S. or world history	No U.S. or world history	No U.S. or world history

Assessments: Wisconsin tests students in grades 4, 8, and 10 in the four core subjects and third-grade reading using the commercially developed TerraNova test. Beginning in 2000, new high school tests based on the standards in the four core subjects will replace the current 10th-grade assessments.

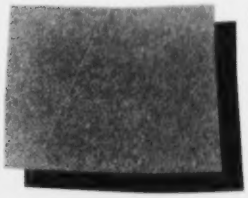
Incentives: Beginning in the 2002/03 school year, students not performing at the "basic" level on the fourth- and eighth-grade TerraNova tests will not be promoted to the fifth and ninth grades respectively. Students will be given two opportunities to pass the tests. Districts may use their own tests with state approval and parents may exempt their child from the tests, in which case the district has to develop alternative criteria.

The class of 2003 will be the first required to pass the high school tests in the four core subjects to be able to graduate from high school. The tests will be based on the 12th-grade standards, and districts will decide when in high school to administer the tests.

Interventions: Districts are required to provide extra academic help to students who fail the third-grade reading test. The state does not provide funds for the intervention.

Wyoming

Standards: Wyoming is writing content standards in the four core subjects. Only the language arts and math standards were available for review. The content standards include performance level descriptions that are unique to the standard and grade benchmark and that clarify some of the knowledge and skills students should learn.



The **language arts** standards focus heavily on skills at the expense of specific content. There are minimal reading basics at the elementary level, and the writing conventions and forms are broad at the middle and high school levels. By grade four, students are expected to "…use decoding skills to read fluently (i.e., phonetic clues, structural analysis, context clues and illustrations)." What "clues" and "analysis" should a fourth grader learn to develop into a proficient reader? And students in grades 5-11 use language conventions including "capitalization, punctuation, spelling, and usage…" What is appropriate "usage" at the fifth grade versus the 11th grade?

The **math** standards are generally clear and specific across all three levels. For example, fourth-grade students should be able to "determine length (to ½ and ¼ inch), weight, and capacity in metric and U.S. customary units. They demonstrate relationships between…centimeters and meters (184 centimeters is one meter and 84 centimeters)…." And eighth graders should be able to "…classify, describe, and draw one-, two-, and three-dimensional geometric shapes, including: lines, rays, segments, and angles; parallel and perpendicular relationships…."

Which Standards Are Clear, Specific, and Grounded in Content?

	Elementary Level	Middle Level	High School Level
English	Vague reading basics	No reading basics; Vague writing	Vague writing
Math	✔	✔	✔
Science	Currently Being Developed		
Social Studies	Currently Being Developed		

Assessments: Beginning in spring 1999, new state-developed English and math assessments based on the standards will be piloted in grades 4, 8, and 11. The state also plans to administer TerraNova tests in English and math also in grades 4, 8, and 11.

Incentives: All students must meet the state standards in the four core subjects to earn a high school diploma. It is not clear how the state will measure successful completion of the standards, but students in the class of 2003 will have to meet the English and math standards. And, the class of 2004 will also have to meet the science and social studies standards.

Interventions: Wyoming requires districts to provide intervention to students having difficulty meeting the standards, but the state does not directly fund the intervention.

V. State Responses

As an accuracy check and a courtesy to states, we sent our draft findings to each state superintendent and deputy superintendent three weeks in advance of the release of the report. We asked state officials to tell us if there were any inaccuracies so that we could make the necessary changes. We also offered to publish their responses in our report. Thirty-three states sent responses that are published in this section. (An additional 17 states responded either orally or in writing, but their responses were not publishable.) To show which of the state concerns and requests led to changes to the state page, we have placed a "†" symbol next to the corresponding text in the state responses.

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STATE OF ALABAMA
DEPARTMENT OF EDUCATION
ED RICHARDSON
STATE SUPERINTENDENT OF EDUCATION

October 15, 1998

Heidi Glidden
555 New Jersey Avenue, N.W.
Washington, DC 20001-2079

Dear Ms. Glidden:

Enclosed is Alabama's response to American Federation of Teachers' review of its content standards for English, Mathematics, Science, and Social Studies. Overall, the review of content standards is accurate; however, some concerns and/or corrections are noted on the accompanying material.

Thank you for the opportunity to respond to your review.

Sincerely,

Ed Richardson
State Superintendent of Education

ER/CCB/RDS
Enclosure

GORDON PERSON BUILDING • P.O. BOX 302101 • MONTGOMERY, ALABAMA 36130-2101 • TELEPHONE (334) 242-9700 • FAX (334) 242-9708

Alabama's Response to AFT's Review of Content Standards

ENGLISH

Generally the critique of the elementary and secondary sections is accurate. When looking at your chart with notations of "vague reading and writing basics" for elementary and "vague reading basics" for the middle level, however, one automatically infers that most standards are difficult to interpret and provide no specific detail. While your narrative description is more accurate in that "some of the reading comprehension could be strengthened if the content were more specific." The information in the chart is misleading and could be misinterpreted.

At the time this document was written in 1993, the English State Course of Study Committee, composed of teachers, college professors, administrators, and business and professional persons, did not see a need to delineate specific details for certain standards. The committee believed that language arts educators know the specific details and skills of certain language arts concepts; therefore, they believed the listing of discrete details was unnecessary in most instances. For example, when the standard requires students to distinguish various forms of literature according to characteristics, the committee did not see the necessity of stating that fables are simple, short prose narratives containing a moral or that poetry is compact, relatively short, and frequently contains metaphors and similes.

The English Language Arts content standards are currently being revised. It is anticipated that the state standards will be more closely correlated with the national standards. The new committee is using critiques of the 1993 document in an effort to strengthen the 1999 version in terms of content and clarity. More specific details will be provided in many of the reading and writing standards.

SCIENCE

Information in the Science section is accurate. Alabama's Science curriculum developed in 1995 was based on graduation requirements that required all students to earn one unit in a life science course and one unit in a physical science course with an additional life or physical science course for the advanced diploma.

Though no specific earth and space standards are required for students in Grades 9-12, the course of study gives permission to local school systems to design course offerings and multiple-year sequences of course offerings of a more integrated nature that could incorporate earth and space content. With the passage of the 4-by-4 curriculum (four courses in each core subject area) that requires four science courses, many local systems are offering earth and space science courses in order for students to fulfill this requirement.

It is anticipated that with revision of the *Alabama Course of Study: Science* during the year 2000-2001 that the course of study committee will consider the addition of an earth and space science course requirement.

SOCIAL STUDIES

Information contained in the Social Studies section is accurate. However, by design, the first chronological study of history that students encounter is at the fourth grade. After careful consideration, the Social Studies State Course of Study Committee, composed of teachers, college professors, administrators, and business and professional persons, chose to present the content for the elementary grades in a thematic, interdisciplinary approach. The four program goals that are clearly identified are historic literacy, geographic literacy, economic literacy and political literacy.

United States history is presented and strengthened by a two-year course sequence beginning in the fifth grade. World history is presented and strengthened by a two-year course sequence beginning in the eighth grade.

Alaska

STATE OF ALASKA

DEPARTMENT OF EDUCATION

OFFICE OF THE COMMISSIONER

TONY KNOWLES, GOVERNOR

GOLDBELT PLACE
801 WEST 10TH STREET, SUITE 200
JUNEAU, ALASKA 99801-1894

(907) 465-2800
FAX (907) 465-4156
E-Mail: FirstName_LastName@educ.state.ak.us

October 14, 1998

Heidi Glidden
Educational Issues Department
555 New Jersey Avenue, N.W.
Washington, DC 20001-2079

Dear Ms. Glidden:

Thank you for the opportunity to review drafts of your publication, *Making Standards Matter*. My staff have reviewed the information and made notes that your writers should use to make the report clear and accurate.

I have accepted your offer of a formal response to your findings. Please find attached to this letter a formal reply to your report.

If you have any further questions, please call Harry Gamble at (907) 465-2851, Ardy Miller at (907) 465-2971 or Richard Smiley at (907) 465-8691.

Sincerely,

Shirley J. Holloway, Ph.D.
Commissioner

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We are disappointed that this AFT study has chosen only one area of school reform—standards and assessment—to base its judgment on Alaska's school reform effort. While we believe your report is well meaning, we also believe you are doing harm to our nation's education system with this incomplete and biased report. By choosing to focus on one area only, you in effect discount other important elements of school reform. This is the kind of harm done by the mass media when editors make judgments—for reasons known only to them—to include certain facts about an event or story and exclude others; or to report about certain subjects, but to ignore others.

We are also disappointed that when evaluating our standards and assessments, you did not take care to ensure you were evaluating the standards that Alaska is in fact using. We believe you instead evaluated our frameworks, which we have never intended to be standards.

Alaska's school reform efforts are multifaceted. At the state level, we have developed a comprehensive, long-term strategy of school reform called the Alaska Quality Schools Initiative. We have set new policies, implemented new programs, adopted regulations and signed new laws to bring to reality a planned vision of systemic school reform.

In our reality, one part of the school reform measures does not stand out from the others. Nor does one part work well by itself.

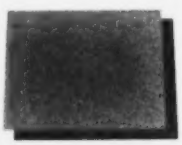
In Alaska, school reform addresses an entire system of student standards and assessments; professional educator standards, a teacher exam prior to certification, higher standards for university teacher training, meaningful teacher evaluations, extra state funds devoted to staff development to help educators identify and assist low achieving students; meaningful roles for parents and community to increase student performance in schools; standards for schools, including intervention strategies for schools with low-performing students. This is a partial list and we cannot go into detail here. Perhaps a future report of your organization will look at systemic change.

Your report fails to accurately link Alaska's state standards in reading, writing and math to an overall system of standards, assessments and accountability. The performance standards in those core subjects have been "benchmarked" at four levels of achievement—3rd, 6th, 8th and high school "exit" level. The achievement of students toward learning those benchmarked standards will be measured with the Alaska Benchmark Examinations in the 3rd, 6th, and 8th grade levels. The exit level standards will be measured with the Alaska High School Graduation Qualifying Exam. We will field test those examinations in March 1999.

This system of standards and assessments—coupled with the state-mandated California Achievement Test at the 4th and 8th grades and other student measures— will give educators, families and policymakers solid information with which to hold schools and communities accountable for the academic achievement of children. If adequate student progress is not being made, then schools and parents will be able to make swift and intensive interventions to get students back on track. The more students on track, the higher the success rate will be on the High School Graduation Qualifying Exam.

Alaska is continuing to implement the strategies of the Alaska Quality Schools Initiative to raise student academic achievement. This effort includes the expansion of rigorous academic standards, assessment and accountability across a broader range of subject areas. We have made tremendous progress. We still have a long way to go.

Colorado



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MEMORANDUM

COLORADO DEPARTMENT OF EDUCATION
STATE OFFICE BUILDING
DENVER, COLORADO 80203

October 28, 1998

Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, N.W.
Washington, DC 20001-2079

Dear Ms. Glidden:

Colorado's Constitution states that the local school boards "shall have control of instruction in the public schools in their respective districts." Furthermore, the constitution prohibits the state legislature and the State Board of Education from prescribing the textbooks used in public schools. The interpretation of these two constitutional provisions led to the development and adoption of Colorado Model Content Standards, which were written so that they could not be interpreted as specifying curriculum or textbooks to local school districts.

The Colorado Department of Education believes that it has successfully established Model Content Standards which offer guidance to districts in the development of local content standards and provide a framework for the state assessments which measure student performance in relation to Colorado's Model Content Standards.

Thank you for this opportunity to respond.

Sincerely,

Don E. Watson

Don E. Watson
Director of Student Assessment

Cc: William J. Moloney, Commissioner of Education

Connecticut

STATE OF CONNECTICUT

DEPARTMENT OF EDUCATION

October 16, 1998

October 16, 1998

Ms. Heidi Glidden
American Federation of Teachers
555 New Jersey Ave., NW Level A
Washington, DC 20001

Dear Ms. Glidden:

Thank you for allowing us the opportunity to respond to the American Federation of Teacher's review of Connecticut's standards in English, Mathematics, Science and Social Studies.

In reviewing Connecticut's standards it is important to understand our approach to their development. The Connecticut Framework: K-12 Curriculum Goals and Standards is only one of a group of publications we have developed. The Connecticut Framework, the Connecticut Common Core of Learning and Connecticut's Guides to K-12 Program Development in ten separate disciplines are publications, all of which are intended to assist local districts in raising expectations, upgrading and improving curriculum and instruction and promoting growth in student achievement. As a group they are designed to provide a framework for thinking about the knowledge, skills and understandings that students should have. THEY ARE NOT INTENDED TO BE GRADE BY GRADE OBJECTIVES THAT PRESCRIBE A CURRICULUM. We believe that local districts are responsible for developing curricula that specifically define what students learn and what teachers teach at each grade level. Local development of curriculum ensures that the interest and values of each community are reflected. The state frameworks provide one basis for district conversations about what is important for students to know and be able to do. Our Connecticut framework, which provides a vision of what is possible for students to learn and be able to do, includes the following components for each of ten separate disciplines:

• Program Goals describe the broad results students should achieve by the end of Grade 12. The results described by each program goal apply to multiple K-12 content standards.

• K-12 Content Standards specify what students should know and be able to do by the end of Grade 12. These statements define domains of content that are important for students to learn and teachers to teach.

• Performance Standards help to explain and clarify the knowledge, skills and understandings that are presented in the K-12 content standards, by articulating more specifically what is to be learned at particular grade level clusters.

• Guides to K-12 Program Development will be published over the next year in 10 disciplines and will incorporate the curriculum framework of the subject area, as well as:

– illustrations of classroom activities that will help students achieve the standards;

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– prototype assessments that can be used to measure student attainment of the standards;

–exemplars of student work that demonstrate attainment of the standards;

–conditions that are likely to provide students with the opportunity to achieve the standards (e.g., materials, teacher training, scheduling considerations);

–suggestions on developing local curriculum; and

–issues and challenges in implementing an instructional program based on the standards.

While the AFT criticism generally finds our standards too vague, it is our contention that our materials, taken as a whole, provide a clear frame upon which specifics can be built by local school districts. In social studies for example, the content topics represented in the Connecticut Framework, e.g., the American Revolution, the Civil War, industrialization, the Great Depression, the Cold War, all represent accepted topics in United States history. These topics are represented in history standards developed nationally as well as teacher and student texts and supplementary resources readily available to schools. Teachers can use all of these resources to guide them in designing units and courses of historical study. Good historical instruction is promoted by having students engage in the ever changing perspectives of history derived from new evidence and the need to interpret it. If history is to have use and meaning it must be driven from a combination of content knowledge and competence in historical thinking. We believe that it is inappropriate and detrimental for the state to prescribe lists of particular pieces of content. We believe that this would inhibit the ability of teachers to address new evidence and invites instructional approaches that fail to engage students in developing meaning for their own lives and the world in which they live. The prescription should come from the local, not the state, level. Our framework sets the stage for the discussions that are necessary at the local level and which should result in a more specific listing of what students should know and be able to do.

In regard to our language arts (English) standards, again the framework was designed to provide guidance to school districts in developing language arts curriculum expectations. The framework was never intended to provide specific content mandates to school systems, nor to address "reading and writing basics." The framework was designed to offer a supportive frame which districts could use to develop their own curriculum and expectations for students based on the strengths and needs of the student population. Please see our publication Read, Read, Read which I have enclosed, which offers further guidance to local districts.

Finally, we take great exception with your critique of our mathematics standards. First, we are confused by the statement that "the math standards place a heavy emphasis on skills over specific content," because 1) skills are a piece of mathematical content, and 2) skills do play a prominent role in the Connecticut Mastery Test objectives. However, the Connecticut math framework is more focused on conceptual understanding than on skills.

In fact, we believe that a standard like "develop and use a sense of order and magnitude of fractions, decimals, integers, powers and roots (grade 5-9 Number Sense)" is a clear and specific statement of conceptual understanding. It is supported by the grade 6 Mastery Test objectives with "estimate the magnitude of mixed numbers and decimals." We believe these statements provide clear direction and foster a balanced curriculum. Moreover, a perusal of both the entire Framework and the full set of Connecticut Mastery Test objectives will show a consistent pattern similar to this example.

We are confused by the criticism of our basic skills standard to "develop proficiency with basic addition, subtraction, multiplication and division facts through the use of a variety of strategies and contexts." The report cites this standard and asks "what are these strategies

and contexts?' Should we have stopped at the word facts and not intimated that instructional considerations play a role in teaching content? Should we have listed the strategies teachers could use here and for every other standard, as well as possible contexts? We believe not. We believe that what we have done here and throughout our framework is remind teachers of the importance of alternative approaches (variety of strategies) and of the importance of problems and applications (contexts) and we believe that this strengthens the framework considerably.

We also disagree with the criticism of a standard like "estimate probabilities, predict outcomes and test hypotheses using statistical techniques." The report cites this standard and asks "what kinds of statistical techniques?" Would the AFT reviewers been happier if the standards stopped at hypotheses? Do they really expect a list of all possible statistical techniques- most of which are skills-or do they understand that this standard very specifically calls for the teaching and learning of the mathematics that allows students to estimate probabilities, predict outcomes and test hypotheses in a variety of settings and using a broad range of techniques?

Finally, to give Connecticut checks for elementary and middle level, but a "vague content" for high school seriously begs the question of reviewer reliability. There is a clear mathematical progression with standards that are essentially the same bite-size and the same balance of skill and concept as one moves from grades K-4 to 5-8 and on to 9-12. If neither elementary nor middle is vague, it is hard, especially with no examples provided, to understand what makes high school vague.

A more careful reading of the admittedly more global grade cluster standards found in the state's mathematics framework along with the more specific Connecticut Mastery Test grades 4, 6 and 8 objectives and the grade 10 CAPT specifications, in addition to our upcoming publication, should reveal a balanced package of state recommendations for mathematics that provide clear and sound direction to schools and school districts.

Once again, let me thank you for allowing us to respond. I do hope that our view will be published in your document. We believe that Connecticut has had a long history (well before the standards movement became in vogue) of providing the type of guidance to local school districts which results in relatively high student achievement (when compared with other states on measures such as NAEP, SAT etc.). Our approach provides direction to local districts without being overly prescriptive in content or in process. It is an approach, which does not necessarily fit with your established criteria of review; however, it is an approach, which has worked for our state.

Sincerely yours,

Betty J. Sternberg, Ph D
Associate Commissioner
Division of Teaching and Learning

STATE OF DELAWARE

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IRIS T. METTS, ED. D.
SECRETARY OF EDUCATION
(302) 739-4601

October 28, 1998

Ms. Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, NW
Washington, DC 20001-2079

Dear Ms. Glidden:

Thank you for the opportunity to review the draft of Delaware's entry in *Making Standards Matter 1998*. We are excited about the progress we are making in standards based reform. In the spring of 1998 we completed the first administration of the Delaware Student Testing Program (DSTP) in reading, writing, and mathematics for all students in grades 3,5,8, and 10. We anticipate the piloting of the DSTP in social studies and science in the spring and fall of 1999 with full implementation in all four areas in 2000.

The first results from the DSTP will be available for all students tested by December 1998. The Department of Education is providing support for districts in the review and interpretation of these results in order to improve curriculum and instruction at all levels. Interpretive guides for the DSTP are being made available to districts along with the test data. Significant investments are being made in providing professional development opportunities for administrators and teachers in the appropriate use of data for school and district level decision making.

It is important to note that although we have not tested statewide in reading and mathematics recently, we have continued to assess writing. Over the past three years we have seen a steady improvement in our writing scores, specifically at grades 8 and 10. We have every reason to believe that we will see similar improvements in all areas over time.

Performance Indicators for the high school standards in English language arts, social studies, science, and mathematics are currently under development. The draft document will be introduced to lead teachers in all of our high schools and to district curriculum directors in November. Between November and mid-January teachers will have the opportunity to provide input on the proposed indicators. The target for completion will have final high school indicators in schools by early May 1999.

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The Delaware General Assembly passed accountability legislation in the spring of 1998, and we are currently engaged with our stakeholders in developing the timelines and necessary components to move forward with regulations that will implement the legislation. In addition, the Legislature provided class size reduction funding for grades K-3 beginning in September 1998.

This fall Delaware has implemented programs for all four-year-olds at 100% of poverty in either federally funded or state funded Head Start. In addition, Parents as Teachers programs are in place statewide as one of the follow on services that are made available to high risk families as a result of a home visit to every first time parent within 72 hours of release from the hospital. Currently a study is being completed with the assistance of Dr. Lynn Kagan of our overall early childhood system, including the necessary and appropriate linkages that need to be made with childcare providers throughout the state.

We are preparing to launch a Task Force on Reading that will be led by Dr. John J. Pikulski from the University of Delaware. Dr. Pikulski is past president of the International Reading Association and is nationally recognized for his expertise in reading. The task force will be reviewing best practice in reading instruction and intervention for children at all levels with particular emphasis on prevention of reading failure in the primary grades.

The combination of identification of best practice in curriculum and instruction and the development of a statewide professional development plan to ensure successful implementation of best practice, we feel confident that we will be successful in improving the achievement of Delaware's children.

As we reviewed the entry for Delaware we noted some changes that should be made in the document. Please see the attached page.

Sincerely,

Iris T. Metts
Secretary of Education

VAW/ITM'ml

Florida

FLORIDA DEPARTMENT OF EDUCATION
Frank T. Brogan
Commissioner of Education

October 16, 1998

David Mosrie, Director
Division of Public Schools
and Community Education

Ms. Heidi Glidden
American Federation of Teachers
555 New Jersey Avenue Northwest
Washington, D. C. 20001

Dear Ms. Glidden:

I appreciate the opportunity to review and respond to your review of the Sunshine State Standards. Your review is clear, in-depth and thorough.

After intensive review, staff found a small number of suggested corrections (designated by underlining and ~~strike-through~~). Also, even though we mildly disagree with the assessment of our middle level social studies in U. S. and world history, our "vague" standards were done purposely to accommodate our geography instruction in the middle grades and to avoid having a 1,500 page document like the national standards. Within these constraints, the standards are rated as sufficiently specific by our teachers.

We respect your analysis and the attached documents are enclosed to clarify our views on this matter. Please call if we can assist further (850-488-2601).

Sincerely,

David Mosrie

DM/sh

cc: David Ashburn
Wayne Pierson
John Wiegman

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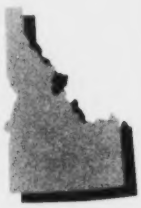

Idaho's Standards for Excellence

October 14, 1998

Heidi Glidden
American Federation of Teachers
Educational Issues Department
555 New Jersey Avenue, N.W.
Washington, DC 20001-2079

Dear Heidi,

This letter is in response to your letter dated October 6, 1998 to our State Superintendent regarding Idaho Standards. I am writing to you concerning the report we received. Idaho had sent in their *Scope & Sequence Guides* for grades K-6. Theses are **not standards**, but basic skills K-6 students needed to know. Even though we appreciate your response, you have Idaho listed as having standards in K-6, which is not correct; these are *Scope & Sequence Guides*. Please correct this page under the heading **"Idaho Standards."**

Idaho has started the process of developing standards in grades 9-12 in the five subject core areas: Math, Science, Social Studies, Language Art/Communications, and Health. The Commissioners and Subcommittees of 130 people have completed a Draft II of the Exiting Standards for grades 9-12 for the five subject core areas. Public hearings will be held October 21-30, 1998. On November 9-10, 1998, the Commissioners and Subcommittees will review the public comments and develop Draft III of the Exiting Standards. External review is scheduled for November 1998. Final approval by the State Board of Education is expected in early January 1999. The Standards will be presented to the Legislators for approval in February 1999. Assessment and Curriculum writing will start in February 1999 after the Final of Standards are approved by the State Board of Education for grades 9-12.

State Board of Education
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Boise, Idaho 83720-0037

Lydia G. Guerra
State Exiting Standards Coordinator
email: lguerra@sde.state.id.us

Tel: 208 332 6956 • Fax: 208 334 4664 • Toll Free: 1 877 EXITING (394 8464)
http://www.sde.state.id.us/osbe/exitstand.htm

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Implementation of Standards in schools will be ultimately up to the State Board of Education.
The process for developing standards for K-8 will begin next year in February or March 1999 after the State Board of Education approves Standards for grades 9-12.

Thank you for your time and effort. We will send you a copy of our Final Standards when they are completed.

Sincerely,

L Guerra

Lydia G. Guerra
State Exiting Standards Coordinator
Idaho Board of Education

cc: Dr. Gregory F. Fitch, Executive Director, Idaho Board of Education
Dr. Anne Fox, State Superintendent of Public Instruction
Dr. Carole McWilliam, State Board of Education
Mr. Jerry Hess, State Board of Education
Ms. Judith Meyer, State Board of Education

Indiana Department of Education

Center for School Improvement and Performance
Room 229, State House - Indianapolis, IN 46204-2798
Telephone: 317/232-9100

October 16, 1998
Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, NW
Washington, DC 20001-2079
Dear Ms. Glidden:

As in years past, the Indiana Department of Education applauds the American Federation of Teachers for its work in promoting meaningful and quality standards. The framework you are using provides the foundation for standards development along with the flexibility required to reflect continued student growth.

The *Indiana Curriculum Proficiency Guides* provide guidance to teachers as they develop curriculum and implement the content standards. The foundation of the Indiana content standards does not embrace a lockstep approach to a curriculum. We believe that it is the responsibility of teachers, working with one another and with others (parents, business, community), to break the curriculum down to the specifics of content, guided by the processes and ideas provided in our proficiency guides. We support schools in working through their beliefs and creating the working curriculum that fulfills all of the expectations expressed in the *Indiana Curriculum Proficiency Guides.*

Regarding your observations on Indiana standards it is important to note the following:

Social Studies Standards. The Indiana standards are based on a variation of a model called the "expanding horizons" curriculum. This model has the advantage of a great deal of existing support in terms of teacher training and teaching materials. Social studies content is organized around nine content strands that are integrated within and across grade levels.

The perception that the standards "ignore world history...present broadly stated, vague, world history (statements) at the middle and high school levels" is overstated as a problem and tends to distort the value of Indiana standards. This perception is probably affected by bias toward national history standards—standards which are not without controversy and standards that have not achieved universal agreement.

In addition, the AFT review contains a number of criticisms that are not accurate. For example, the report states emphatically that "The U.S. history standards are virtually non-existent at the elementary level...." This is not the case. Fourth Grade focuses on Indiana history and United States history is covered in Fifth Grade. Both grade levels provide a full set of history standards. Basic skills and concepts, such as chronology, sequencing, and change, that are necessary for the development of historical thinking, are developed in Indiana's social studies standards in Kindergarten, First Grade, Second Grade, and Third Grade. Numerous history standards are listed at each grade. The fol-

lowing is an example: "Students should be able to examine pictures and photographs of the neighborhood and community in the past and explain differences in clothing, transportation, and architectural styles." (Second Grade).

Indiana's standards attempt to move classroom teaching away from the memorization of names, dates, and events out of context. At elementary level, the standards emphasize historical inquiry using the local community, state, and nation as a focus. At the middle and high school levels the focus is on the United States history and world studies, including both history and geography.

The report states that United States History at the middle level is vague. This is a criticism which should be examined. Eighth-grade United States History focuses on United States history up to the late 19th century. Many eighth-grade standards are fairly specific. For example: "Students should be able to identify and trace the economic, political, and social forces leading to colonial demands for independence and the Revolutionary War, (e.g., taxation/representation, mercantilism, loyalty, and nationalism)." A similar statement regarding world history at the high school level should also be examined to see if standards can be made more specific and more academically rigorous, without resorting to standards which simply provide long lists of historical figures, movements, and events.

English/Language Arts standards. Your observation regarding focus on skills at the expense of specific content is justified. The Indiana Department of Education is currently in a revision of the K-12 curriculum standards. What students should know and be able to do is serving as the foundation for the revised guide. Attention is also given to the details essential to a differentiated curriculum, i.e., standards, indicators, and instructional supports.

It is helpful to note that the 1992 *English/Language Arts Proficiency Guide*, the document under review, provides a developmental framework that contributes to local curriculum development. Local teachers, parents, administrators, business and industry, community members, and students must engage in conversation essential to understand and support the standards.

Science standards. Your comments do not reflect the quality of this document—a document that is seen by some as the best in the United States. NAEP scores and TIMMS extrapolation, show test results that would indicate the strength of the standards in improving teaching and learning.

Mathematics. Your comment, "numerous examples also makes the document large and somewhat cumbersome to use" is very appropriate. In our state, teachers have requested specific examples to make proficiency statements perfectly clear. Efforts have been made to make it easier to use though a format that better communicates where a person is within the document.

Thank you for the opportunity to respond to your report.

Sincerely,

Robert A. Fallon

Robert A. Fallon, Director
Office of Program Development
cc: Dr. Suellen Reed, Superintendent of Public Instruction
Phyllis Land Usher, Assistant Superintendent
Mary Tiede Wilhelmus, Director, Communications Office

Kentucky

KENTUCKY DEPARTMENT OF EDUCATION
CAPITAL PLAZA TOWER 500 MERO STREET FRANKFORT, KENTUCKY 40601
Wilmer S. Cody, Commissioner

October 14, 1998

Ms. Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, N.W.
Washington, DC 20001-2079

Dear Ms. Glidden:

Thank you for the opportunity to respond to this year's edition of *Making Standards Matter*. AFT's annual review of states' standards documents allows us to return to the very important national discussion of standards and their role in guiding students toward greater proficiency.

As has been the case in past responses, we must continue to point to Kentucky's efforts in defining appropriate standards for instruction and assessment of all our students. As you know, we have a variety of documents designed to assist teachers in determining what their students need to know and be able to do to ensure their success in an increasingly complex and demanding world. We feel documents such as *Transformations: Kentucky's Curriculum Framework*, *Core Content for Assessment*, and the *Program of Studies* provide teachers a road map in determining meaningful daily instruction. These documents, along with teacher handbooks and training materials containing extensive annotated student samples, provide teachers with a concrete picture of the content and performance levels we expect our students to achieve.

In this response, we would like to focus on AFT's explanation of how the panel reached its judgments of our core content standards. We do this because we want to point out a few areas of disagreement concerning the ratings. However, before we address the specific points in the AFT report, we must acknowledge an issue obvious to anyone familiar with the structure of Kentucky's educational system. Ours is a system that chooses to set core content and student performance levels and to empower schools and districts to determine the specific grade-by-grade curriculum to meet those goals. Having

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said that, we must also point out that the documents referenced earlier offer extensive guidance about grade-specific movement toward those goals. In fact, the *KELP Learning Descriptions* mentioned favorably in your report as clarifying the basics at the elementary level in English/language arts, is a guiding document, not a mandated one.

The first criterion referenced in your report is the definition in every grade, or clusters of grades, of the content and skill expectations for students in the core subjects. If one were to examine only the *Core Content for Assessment*, one might contend that reading and writing basics are not clearly delineated in the middle and high school grades. However, if one examines the *Program of Studies*, grade level description of content and skills for all middle and high school grades would be found. In fact, we contend that the grade level descriptions in this document meet the definition of "basics." For instance, in reading one finds such basics as identification of synonyms, antonyms, and homonyms; literal and non-literal word meanings; and main idea and supporting details. We also contend that the writing genre identified by grade level in the *Program of Studies* and the *Core Content for Assessment* delineate genre study by level. For instance, our on-demand writing assessment identifies articles and letters as forms for the 4th grade assessment while 12th graders experience the addition of speeches and editorials. The same types of designations are found in the non-assessment grades in the *Program of Studies*.

Your second criterion references the need for standards to be explicit and to reflect the content of the subject. Once again, our teachers have identified what our state sees as the core content of all our core subjects. In social studies your panel found our approach lacking at the elementary and high school levels. However, our teacher advisory panel has chosen a more integrated approach to the study of social studies, an approach that is reflected in all three levels reviewed by your panel. Since the middle school program was developed with the same approach as the elementary and high school programs and are very similar in scope, it is confusing that one of the three areas received an endorsement from AFT, but the other two did not.

The second confusing aspect of the AFT report involves the stated use of the *Program of Studies* to determine ratings for only some of Kentucky's core content areas. The *Program of Studies* was specifically mentioned as one of the reasons mathematics and science received a favorable review. Interestingly, the *Program of Studies* was not mentioned in the reviews of English/language arts or social studies. The AFT panel quoted several examples in social studies, but these came only from the *Core Content for Assessment*. Since the Core Content specifies only the content to be included on grade specific state assessments, it is important to also review the *Program of Studies* for curricular implications.

AFT's third criterion demands that standards address both content and skill. The AFT report speaks to the need for students to be able to apply skills. Our experiences on the cutting edge of school reform and performance assessment in Kentucky have taught us that students and teachers need more than a discreet list or description of basic skills to clarify standards. They need real examples of student work, agreed upon by a representative group, to illustrate standards. Although the AFT panel favorably mentioned the *KELP Learning Descriptions*, teachers across the state have found that the descriptions alone are not enough to provide a picture of what those skills look like in application. Teachers from across the state have requested student samples to illustrate those skills at varying performance levels. We are in the process of bringing teachers together to identify those samples, and their choices will represent one more tool that Kentucky teachers will use to strengthen their understanding of the state writing standards in application.

We offer these differences to highlight the complexities of judging standards. While we acknowledge the effort and applaud the goals of the AFT reviews, we seek further discussion and further explanation concerning some of the judgments reached by the AFT panel. For instance, our reading standards have received AFT's approval in the past, yet this year, despite the added explicitness and detail in the newly released *Program of Studies*, the reading standards were not approved at the middle and high school levels.

We hope that these observations contribute positively to the national discussion of standards.

Sincerely,

Wilmer S. Cody

Wilmer S. Cody

WSC/BE
Glidden

Louisiana

STATE OF LOUISIANA

DEPARTMENT OF EDUCATION

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October 19, 1998

Heidi Glidden, Assistant Director
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, NW
Washington, DC 20001-2079

Dear Ms. Glidden:

The American Federation of Teachers is to be commended for providing Louisiana the opportunity to review and respond to the analysis of our state content standards and assessment design documents prior to the publication of *Making Standards Matter 1998*. In responding to the draft of this report, it is crucial that we clarify the philosophical position that Louisiana has taken in its educational reform initiative.

Standards. The intent of the Louisiana content standards initiative is to focus on meeting the needs of *all* students. We differ with your position that these standards should always be highly specific. To acknowledge the richness existing in our diverse student population, we have chosen to move from specific state developed curriculum guides to broader content standards and benchmarks at the state level. This allows for more flexibility and specificity in the development of local curricula; thereby ensuring ownership by local educators. Our belief is that most specific needs of students are best identified and addressed at the local level. Each school district in our state has developed grade-level specific curricula that address the individual needs of its student population.

The benchmarks in our state content standards documents extend and refine content knowledge and applications across specific grade clusters (K-4, 5-8, 9-12). The standards and benchmarks serve as a framework not only for locally-developed curricula, but also for the development of new statewide assessments.

Assessments. The State has developed a new criterion-referenced testing program, *LEAP for the 21st Century*, which will be implemented in 1998-99. The concepts, skills, and applications on which student performance will be measured are aligned with the standards and benchmarks addressed in the content standards documents. Teachers are using the content standards documents, locally developed curricula, and the *Teachers' Guides to Statewide Assessment* to prepare their students for *LEAP for the 21st Century*. In addition, the state testing program includes a norm-referenced testing component.

Incentives and Interventions. In 1998-99, student results on the new 4th and 8th grade criterion-referenced tests will be the principal criterion for promotion. In the year 1999-2000, the stakes will increase as Louisiana students must meet a state-specified level of proficiency on the tests in order to proceed without intervention. Intervention strategies being considered include early intervention, remediation, alternate settings, mandatory summer school, or retention.

Sincerely,

Cecil J. Picard
State Superintendent of Education

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STATE OF MICHIGAN

DEPARTMENT OF EDUCATION

P.O. Box 30008
Lansing, Michigan 48909

October 20, 1998

ARTHUR E. ELLIS
Superintendent
of Public Instruction

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Ms. Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, N.W.
Washington, DC 20001-2079

Dear Ms. Glidden:

Staff of the Michigan Department of Education are generally pleased with the comments provided in regard to mathematics and science standards. In particular, the comments on the mathematics teaching and learning activities accurately show the direction that Michigan has had in providing tools for teachers to assist them in understanding these standards.

In regard to English standards, in recent months the Michigan Literacy Program Portfolio has been developed to assist teachers. Additional tools are in the process of being developed in literature and the other areas of English language arts.

The commentary in regard to world history is accurate in that world history is not directly addressed in the Michigan social studies standards. Staff is developing tools to assist teachers in their use of the history, physics, and geography standards.

More importantly, the comments provided regarding assessment, while technically accurate, are clearly misleading. Michigan is currently testing in grades four, five, seven and eight on standards titled, "Goals and Objectives," adopted by the State Board of Education in 1985, 1986, and 1988. The grade eleven tests are based on the Michigan Model Core Curriculum adopted in 1991. It has been practice in Michigan to test on standards until schools have the opportunity to modify curriculum and provide in service training to teachers. Future tests will be developed on the most recently adopted standards.

Additionally, the paragraph regarding interventions is inaccurate. The Michigan School Code, 380.1278(8), provides that school districts provide special assistance to children who do not score satisfactorily on the fourth and seventh grade reading test.

Thank you for the opportunity to review the draft report and respond to these issues.

Sincerely,

Michael R. Williamson
Assistant Superintendent

MRW:jh

Mississippi Department of Education
Richard L. Thompson, State Superintendent of Education

Office of Academic Education
Susan M. Rucker, Ed.D. • Director • Instructional Development • 601-359-3778 • Fax: 601-359-1818

October 14, 1998

Ms. Heidi Glidden
American Federation of Teachers
555 New Jersey Avenue, NW
Washington, DC 2001-2079

Dear Ms. Glidden:

I appreciate the opportunity to respond to proposed information for the State of Mississippi, which will appear in AFT's Fourth Annual Report, *Making Standards Matter 1998*. Some of the information included in the report is inaccurate. While I disagree with your evaluation on some points, I will address each section of the report and will send attachments to substantiate the information.

Standards
The high school level is organized by courses, and all students are expected to meet the standards found in English 9, 10, 11, and 12; Algebra; Geometry; World History; United States History; United States Government; Mississippi Studies; and Biology. I have attached a copy of our graduation standards, which include Biology as a required course for graduation.

English
The Mississippi Language Arts Framework is an integrated curriculum based on the national standards of the International Reading Association and the National Council of Teachers of English. According to research, the competencies, teaching strategies, and assessments utilize reading, writing, listening, speaking, and viewing skills that students must know and be able to apply. Students are taught to respond, orally and in writing, throughout the framework.

The framework is the curriculum mandated for students. Since some students require reading and writing interventions to achieve, there is a process of intervention for all students. The intervention process includes two *Reading Instructional Intervention Supplements*. There is a supplement to the framework for grades K-3 and 4-8. The supplements contain three researched components:

- Benchmarks – What children should know an be able to do,
- Informal assessments – On-going assessment of benchmarks, and
- Interventions – Strategies to assist students in meeting benchmarks.

The intervention strategies in K-3 and 4-8 include teaching students to respond, orally and in writing, to story elements, author's purpose, and position.

There are compensatory reading and writing frameworks presently developed for grades 9-12 that specifically teach the reading and writing processes. The compensatory reading course framework includes the 4-8 benchmarks. The compensatory writing framework includes responding to the benchmarks in reading, utilizing syntactical cues including sentence patterns, and specifically, how to respond for different purposes.

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Math
Thank you for stating that our standards are clear, specific, and grounded in content at all three levels.

Science
Students are required to take three science courses in order to graduate, one of which is specified, Biology I. All students are required to take and to meet the standards set for Biology I. A state mandated criterion-referenced subject area test is administered to all students enrolled in Biology I. The remaining two science courses that a student takes are left up to that student and his/her parents.

Social Studies
United States History is addressed at the elementary level in the following ways:

- Kindergarten – national symbols, historical figures, civic protocol; Unit: "I'm A Good Citizen"
- First Grade – voting, civic responsibility, historic figures
- Second Grade – Standard 2 (three objectives)
- Third Grades – Standard 2 (seven objectives)
- Fourth Grade – Focus on Mississippi history/studies
- Fifth Grade – Focus on United States Studies (every standard reinforces the study of United States history)
- Sixth Grade is a part of the "middle school" concept and should not be used as an elementary example.
- Middle School level United States History is in the Eighth Grade. The course is titled *United States History to 1877*. The Western Hemisphere course does not focus on the United States, because it was the focus for the fifth grade year.
- World History is not specifically mentioned in grades K-5; however, countries were chosen for geographic and historical comparisons:
  - Kindergarten – Japan
  - First Grade – Germany
  - Second Grade – China
  - Third Grade – Kenya

Standards are meant to be the concepts and processes we want students to be able to do. The objectives are the means by which to reach these standards. By their very nature, standards are broad, but "reachable." The standards, objectives, unit guides, literature guide, assessment glossary, and technology guide all reflect the total package the social studies team wanted to present. Standards are one part of the package that should be reviewed in its total form.

When we write a curriculum, the team considers:

- Needs of the students and teachers in our state,
- The philosophy of the writing team,
- The previous document, and
- The current document in its entirety.

Assessments
Mississippi tests students in English and math using norm-referenced and performance-based assessments in Grades 4-8 (ITBS) and Grade 9 (TAP).

Incentives
This information is correct at this time. Two state-wide committees on assessment have made recommendations to the State Board of Education that could include other incentives for students.

Interventions
At this time, Mississippi does not require districts to provide interventions for students having difficulty meeting the standards unless they qualify for Special Education, but we do have a process of accreditation that places school districts at a rating of Level I (low) to Level V (high). Low performing districts, Levels I and II, have many regulations placed on them until their rating improves to a Level 3. If districts score at a Level 4 or 5, they are exempt from many regulations and have more freedom to run their programs. If interventions are not used, districts will fall short of a level 4 or 5 accreditation status.

I have included a copy of the *K-3 Reading Instructional Intervention Supplement* and a working draft of the 4-8 resource supplement and the working draft for the Compensatory Writing I and II frameworks for your review. These frameworks are being piloted in accredited Level I school districts this year. (These districts are low performing districts.)

Sincerely,

Susan M. Rucker

Susan M. Rucker, Ed.D., Bureau Director
Office of Instructional Development

SMR:drt

Attachments

The Office of Public Instruction

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October 19, 1998

Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, NW
Washington, DC 20001-2079

Dear Ms. Glidden:

On November 5, 1998, the American Federation of Teachers will release its fourth annual report on the progress and prospects of standards-based reform in the United States. My staff and I thank you for the opportunity to review and comment on the information and analyses of Montana's draft standards for reading and mathematics. In your letter dated October 6, 1998, you ask for responses to several questions: Is the information included about Montana accurate? Did we in Montana find the information useful? Was this a fair judgment? How has Montana addressed the issues raised by the AFT? I'd like to begin by demonstrating that we have thoughtfully chosen our path to improve teaching and learning, a path that has proven effective for Montana students.

Over the past ten years, Montana has engaged in serious examination of what we want our students to know and be able to do and what kinds of schools will help to make that learning possible. This work, begun in 1987 with the grass-roots effort, Project Excellence, continues today. Education is valued in our state as demonstrated by our students' successes. Similar to other rural states in our region, Montana's achievement scores on national measures are high and, historically, our students do well on the ACT and SAT exams. We continue to be in the top quartile in NAEP scores. We must note, however, that test scores are only one indicator of our quality schools. It appears that the AFT beliefs, prescribing grade-by-grade curriculum, developed and mandated by the state department of education or the state board of education, fly in the face of best practices. Research shows, and common sense would indicate, that when teachers, parents, and communities develop curriculum, the process strengthens ownership, knowledge, and commitment to implementation of standards. Montana wants guidance and leadership from its state, not top-down mandates, or cookie-cutter curricula.

What guides the education system in Montana? We have a strong spirit of local control and the trust that our education system is good because communities participate, parents care, and teachers and administrators are well educated. The Montana Board of Public Education (BPE), education professionals, businesses, communities, parents, the higher education community, and the Office of Public Instruction (OPI) continue to improve our schools by working together. The role of OPI is to provide guidance and leadership within this partnership. Currently, through Montana's School Improvement Initiative, the statewide partnership is actively engaged in revising our standards. This effort builds upon the work that Montanans completed through Project Excellence in 1987-1989.

In a thoughtful process, the BPE and the OPI considered several approaches in the development of standards. We studied the national standards, the work of other states, the efforts of the AFT and other such organizations, and best practices of Montana teachers. Based upon this research, the BPE made a reasoned decision to develop a standards framework.

The Montana Standards Framework defines the general knowledge in each subject area and sets specific expectations for student learning at three points along the K-12 continuum. These benchmarks are at the end of fourth grade, eighth grade, and upon graduation. Performance standards describe student achievement at each of these benchmarks at four performance levels: advanced, proficient, nearing proficiency, and novice. Taken on balance, the content standards, benchmark

expectations, and corresponding performance levels provide teachers, parents, students, and the public with a clear understanding of what students are expected to learn and how well they are able to apply their learning.

On September 17, 1998, the Montana BPE adopted the reading and mathematics content and performance standards into the Administrative Rules of Montana, completing the first phase of the Montana Standards Framework. The Framework will provide the structure for Montana school districts, teachers, and administrators as they modify local curricula and classroom assessments to meet these standards.

Now to the questions asked in the letter of October 6.

AFT Question: Is the information accurate?

No, several items in the AFT analyses are incorrect.

AFT Statement: Montana is writing new standards in the four core subjects.

Montana Response: Montana is revising academic standards in all subject areas: communication arts (reading, writing, literature, speaking and listening, media literacy), mathematics, science, social studies, world languages, health enhancement, technology, library media, arts, and vocational and practical arts. The process of revision and adoption for all subject areas will be completed by Fall 2000. School districts have until the end of 2003-2004 to align their curricula to the statewide content and performance standards.

AFT Statement: The reading standards were adopted earlier this year and the math standards are in draft form.

Montana Response: Both the reading and mathematics content and performance standards were adopted as Administrative Rule by the Montana BPE on September 17, 1998. Effective October 9, 1998, school districts are required to modify locally written curricula to align to the statewide standards. The draft standards that AFT reviewed were the very first drafts sent to over 2,000 Montanans for comment.

AFT Statement: The reading standards…there is no coverage of the writing basics or forms.

Montana Response: Montana is currently drafting the remaining communication arts standards. The communication arts include reading, writing, speaking and listening, media literacy, and literature.

AFT Statement: The Montana English standards are unclear and vague.

Montana Response: Montana uses communication arts as the content area, not English. The communication arts include reading, writing, etc.

AFT Statement: These tests are not aligned with the standards, and it is not clear if the state will assess student achievement toward the standards once the standards are approved.

Montana Response: The AFT statement is incorrect. The Montana BPE has taken steps to begin the process of matching the approved standards to an aligned test.

AFT Question: Was the analysis a fair judgment?

No.

AFT Statement: What are some of the "themes" high school students should know?

Montana Response: What the AFT describes is curriculum, not standards. The AFT "examples of clear standards" are much too prescriptive and cross the line from standards to curriculum. The AFT approach seems to tie the hands of teaching professionals. There is no intent on the part of the OPI or the BPE to develop or to mandate a state curriculum. Further, we find disturbing the AFT's lack of support for and the confidence in its teachers to write curriculum based on standards. Montana educators are involved in designing a systemic implementation plan that includes professional development activities grounded in content knowledge and teaching strategies.

AFT Statement: The following standard is repeated in grades four and eight: decode unknown words combining the elements of phonics, grammatical structures, analysis of words [sic] parts, and context to understand reading material.

Montana Response: The content standards, benchmark expectations, and the performance levels

for student achievement must be taken together to provide a picture of student learning. The benchmark remains the same with the developmental continuum articulated in the performance standards at each of the four levels of performance. For example, the K-12 content standard 2 for reading states, "Students apply a range of skills and strategies to read." The benchmark expectation for grades four and eight is the same: Students will decode unknown words combining the elements of phonics, grammatical structures, analysis of word parts, and context to understand reading material. The performance standard for a fourth-grade student reading at the proficient level states that he/she uses a substantial reading and listening vocabulary appropriate to fourth-grade level and effectively applies, articulates, and self-monitors decoding and comprehension strategies with grade-level material. An eighth-grade student at the proficient level combines and monitors a variety of fluently read materials with comprehension, interpreting elements of fiction and nonfiction, literary devices, and using vocabulary at the eighth-grade level.

AFT Question: Is the information useful?

No.

AFT Statement: Our goal has been to let the education world and the broader public know how seriously states are taking the challenge of setting academic standards for their students…

Montana Response: In the past, national reports were helpful to our process, helping to build the awareness of the need for content and performance standards. However, as AFT has become more prescriptive in its last two reports, dictating a national curriculum, these reports are of little use. In fact, I am gravely concerned that the critique of our early draft standards is counterproductive to the efforts that Montana has undertaken and threatens the progress we have made. A trustworthy, national teachers' organization quoting, publishing, and judging draft standards demonstrates little support to the very people you represent.

AFT Question: What steps is Montana taking to address the issues AFT raises?

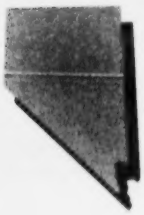
Montana Response: What AFT describes is curriculum, not standards. Montana has just begun to adopt content and performance standards into Administrative Rule. For the first time, all students in Montana will use this common set of standards. Local curriculum, instructional strategies, culturally rich materials, and aligned classroom assessment will be developed and/or modified from this framework. Montana will continue to develop content standards based on the general knowledge in each subject area. Through implementation and professional development, designed through the statewide partnership, Montanans will together build awareness of the standards, deepen content knowledge, renew instructional skills and methods, and design aligned classroom assessment. Too much detail restricts the teaching options at the local level and defeats innovative teaching methods and teachers' ownership. Too much detail will take away flexibility, stifle creativity, and imply that teachers are not capable of writing quality curriculum to meet the state content and performance standards. Grade-specific content standards and benchmarks could prevent innovations such as ungraded primary, multi-age classes, or greater flexibility in course work at the high school level. Montanans expect that curriculum development, based upon state content and performance standards, be written at the local level.

In closing, I wish to thank you for the opportunity to respond to your review of Montana's draft reading and mathematics standards. Montana asks that AFT consider the differences between and among states, from urban to rural, poor to wealthy, diverse to homogenous. Let's hope that we are not trying to "teacher proof" standards and curriculum by top-down directives. Montana will not go down that road. We will continue, if need be, to "take the road less traveled."

Sincerely,

Nancy Keenan

Nevada



MARY L. PETERSON
Superintendent of Public Instruction

KEITH W. RHEAULT
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October 16, 1998

Heidi Glidden
American Federation of Teachers
555 New Jersey Avenue N.W.
Washington, D.C. 20001-2079

Dear Ms. Glidden:

Thank you for providing the opportunity to review AFT's critique of Nevada's standards. For the most part, we agree with your analysis. As noted in the narrative, your analysis was based on draft standards dated May, 1998. The Council to Establish Academic Standards for Public Schools and the State Board of Education officially adopted the enclosed standards for math, science and English/language arts on August 20, 1998.

We believe that the weaknesses you identified in the draft science standards have been corrected in the final version. In addition, please note that the social studies standards are in early draft form. The Council to Establish Academic Standards will begin intense work on these standards this fall. By law the Council and the State Board of Education will officially adopt social studies standards by September 1, 1999.

We appreciate your efforts to ensure high standards for all students. If you have any questions or concerns, please do not hesitate to call my office.

Sincerely,

Mary L. Peterson
Superintendent of Public Instruction

MLP:da
Enclosure: Final Adopted Standards

An Equal Opportunity Agency

State of New Jersey

DEPARTMENT OF EDUCATION
PO Box 500
TRENTON, NJ 08625-0500

CHRISTINE TODD WHITMAN
Governor

LEO KLAGHOLZ
Commissioner

October 23, 1998

Ms. Heidi Glidden, Educational Issues Department
American Federation of Teachers (AFT)
555 New Jersey Avenue N.W.
Washington, DC 20001-2079

Dear Ms. Glidden:

Thank you for the opportunity to respond to your recent review of our standards. I would like to provide you with additional information regarding two of the standards and frameworks. These include language arts literacy and social studies.

Language Arts Literacy. New Jersey's language arts literacy standards are designed to allow local district flexibility in the selection and sequence of curriculum materials. Therefore, the standards and cumulative progress indicators eschew proscriptive lists that would preempt district discretion in all curriculum decisions. The standards are also written to address the full audience in the state, not simply New Jersey educators. Therefore, emphasis in New Jersey's standards is given to the scope of students' experience and understanding rather than to terminology or identification of discrete curricular objectives.

As an initial step in the Commissioner's three-part strategy to establish what students should know and be able to do, New Jersey's standards focus instead on the integrated and spiraling nature of language acquisition and skills development. Learners instinctively draw on previous experience as they engage in new learning and in doing so build increasingly rich and complex schemas that inform their understanding. Close examination of the new framework document illuminates this through examples that convey the breadth and depth of a sound language arts curriculum. Similarly, our statewide assessment reflects recognition that development is neither wholly linear nor discrete.

By the end of grade four, students who are able to "read literally, inferentially, and critically" will be able to do so whether they read stories, articles, poems, directions, plays, or advertisements. The framework illustrates this extensive variety for all grade levels; the statewide assessments provide it through rigorous and diverse reading passages. What distinguishes the language experiences of the younger students from the experiences of older students is the sophistication of the topic, the syntactic and semantic complexity of the language, the length of the materials, and the level of reasoning that children bring to bear on the language arts activities. While fourth graders may not have the rhetorical background required to engage

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in formal debate or to write a persuasive essay, they begin developing the analytical skills they will need for these tasks by speculating about possibilities, comparing and contrasting ideas, explaining motives and purposes, and exploring the nuances of language and linguistic structures. As they develop proficiency in these tasks, they demonstrate greater likelihood of achieving proficiency in the more abstract tasks they will face in the upper grade levels.

To this end, the standards, frameworks, and assessments are structured to promote a spiraling, integrated language arts literacy program of increasingly complex texts and contexts for thinking, learning, communicating, and aesthetic enjoyment, which are, afterall, the essential purposes and advantages of language arts literacy. We have strived to accomplish this with all of our seven frameworks.

Social Studies. Due to the timing in our development work, you had the opportunity to review the first draft of our Social Studies Framework. Since then we have developed the final document after receiving input from educators throughout our state, which is now in the final stages of development. The final document includes the following:

- A matrix of social studies skills;
- A content matrix for history, civics, and geography;
- Separate matrices for the three disciplines;
- A detailed specification of each of the twelve periods of history including seven world history eras and five United States history eras; and
- A table of suggested emphases in history for each of the three grade clusters: K-4, 5-8, and 9-12.

This sequence represents an empirical approach to building a social studies framework based on standards. We worked on every one of the 125 indicators in order to reconstruct the three disciplines around the thinking of the standards panels as opposed to fitting their product into a preconceived scheme for social studies. As a result, civics for example has been expanded in our document to include the study of the humanities as part of learning about democracy.

I will certainly provide you with the final version of this framework for your review. If I can provide further information, please do not hesitate to contact me.

Sincerely,

Ellen Schechter

Ellen Schechter, Assistant Commissioner
Division of Academic and Career Standards

ES:ID:jh

c: Jay Doolan

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MICHAEL J. DAVIS
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October 16, 1998

Heidi Glidden
American Federation of Teachers
Educational Issues Department
555 New Jersey Avenue, N.W.
Washington, DC 20001-2079

Dear Ms. Glidden:

Thank you for the opportunity to respond to the American Federation of Teachers (AFT) evaluation of New Mexico's Content Standards, Benchmarks, and Performance Standards. We support the criteria and methodology used by your organization to evaluate standards. First and foremost, our standards should communicate to teachers clearly and specifically the New Mexico State Board of Education's high expectations for students.

We were pleased to read that your evaluation has recognized our continued work in the area of Science, Mathematics, and Language Arts. In particular, your evaluation in 1997 stated that Language Arts did not meet AFT criteria. In 1998, after dedicated work from teachers, university faculty, and State Department of Education staff, your evaluation highlights our progress, specifically in the area of writing. The New Mexico State Board of Education strongly believes that early and successful literacy - in reading and writing - will lead to greater student success.

New Mexico's Social Studies Content Standards and Benchmarks were adopted by the State Board of Education in November 1996. The Social Studies Performance Standards are a "work-in-progress." To address the need for increased specificity and accountability, New Mexico has joined twenty states, the Council of Chief State School Officers, and American College Testing (ACT) in a Comprehensive Assessment Project for Social Studies. This project is developing assessment modules in the four disciplines of history, geography, economics, and civics and government. It is New Mexico's intention that we will collect and analyze the information gathered from teachers, administrators, parents, community members, and respective assessment data to make appropriate revisions to our standards within the State's instructional materials cycle for social studies.

I also want to thank the AFT staff for its time and diligence in preparing both the criteria, the review of standards, and the assistance provided to New Mexico.

Sincerely,

MICHAEL J. DAVIS
State Superintendent
of Public Instruction

MJD/TNT/tnt

New York

NEW YORK

THE STATE OF LEARNING

THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234

Office of Curriculum and Instruction - Room 671 EBA

October 19, 1998

Ms. Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, N.W.
Washington, DC 20001-2079

Dear Ms. Glidden:

Thank you for your letter of October 13 which included your comments on New York State Learning Standards in the areas of English Language Arts, Mathematics, Science and Social Studies. We are pleased that our work will be included in your report and that you were able to review many of our curriculum publications.

I am taking the liberty of sending you a copy of the *"English Language Arts Resource Guide with Core Curriculum"* since it was not listed in the documents reviewed. The document provides an additional level of specificity to the Learning Standards. We are developing similar content guides in Mathematics, Science and in Social Studies which will include all grade levels from Pre K to Grade 12. We believe that providing this additional level of specificity for the Mathematics, Science and Social Studies teachers of New York State will be as helpful for them as the English guide has been for Language Arts teachers. These documents clearly specify the competencies that students are expected to demonstrate by the end of certain grade levels. In addition, they guide instruction which prepares students to challenge assessments successfully in each discipline area.

Thank you for your thoughtful assessment of the work underway in New York State.

Sincerely,

Patricia Webster

Patricia Webster
Associate, Curriculum and Instruction

North Carolina

Public Schools of North Carolina

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Instructional and Accountability Services

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October 19, 1998

Ms. Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, N.W.
Washington, DC 20001-2079

Dear Ms. Glidden:

Thank you for sending us a copy of North Carolina's portion of the AFT fourth annual report. Our comments about English, math, science, and social studies are attached.

Please note that during the 1998-99 school year, we will revise our science and English Language Arts curriculums. If you have questions about any of our comments, please call June S. Atkinson at (919) 715-1626.

Sincerely,

Henry L. Johnson

HLJ:JA:mw
Attachment
c: Supt. Mike Ward
June Atkinson
Wandra Polk
Mike Frye
Mike Kestner

98-99 AFT Comments
Mw/rtn 10/15/98

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Response to: "Making Standards Matter" from the American Federation of Teachers

English Language Arts

The English Language Arts curriculum is currently being revised to include more specificity than is in the current document. This additional specificity is mandated by recent legislation. We anticipate the curriculum at all levels will have more detail about mechanics and conventions.

North Carolina is a multiple textbook adoption state so it is not possible to mandate particular works of literature at any grade level. The grade level competencies in the current curriculum for grades K-12 do specify the types of literature that students are to study at each grade level.

Grade level competencies (all grades K-12) for reading, writing, and mechanics are in the current *North Carolina Standard Course of Study*. The second paragraph of the AFT review gives the mistaken impression that this is true only for elementary grades. The answers to the specific questions your rating suggests are missing for middle and high school levels are in these competencies. See attached pages that show all the competencies from the current *Standard Course of Study*.

In the section labeled "assessments," there should be a notation that end of course exams exist for English I (ninth grade English) and English II (tenth grade English). End of course tests will be developed for English III (eleventh grade English) and English IV (twelfth grade English) after the curriculum is revised.

The comments in the "assessment" section do not indicate which areas are assessed with competency tests. Competency tests currently exist in both reading and mathematics.

Mathematics

The report is generally favorable for the mathematics standards. The review was a draft of the K-12 curriculum prior to State Board of Education approval.

A K-12 *Standard Course of Study* was adopted by the State Board of Education, May 1998. The revisions tightened up some of the ambiguity and eliminated redundancy across grades and courses.

Additional state assessments for Geometry and Algebra II are being required beginning in the 1998-1999 school year.

Science

The report is generally favorable for the science standards with the exception of high school earth science and physical science.

The curriculum for those two courses is written in the same format as the rest of the standards for science. The Earth/Environmental Science course includes topics in Geology, Meteorology, Oceanography, Astronomy, and Natural Resources and Environment. The Physical Science course includes topics in Sound, Light, and Heat, Chemistry, Mechanics, Electricity and Magnetism, and Energy. The teacher handbook provides goals and objectives as well as additional explanations for each objective.

It is unclear from the preliminary review what concerns have been identified for these courses.

The K-12 science curriculum is currently under revision.

Social Studies

North Carolina Rationale for Social Studies

The social studies curriculum defines in general terms the subject matter to be emphasized at each level. This general description is intended to guide local curriculum coordinators as they select specific content for each level and course. This is consistent with our state mandate to allow local flexibility in developing curriculum. As a result, the social studies goals and objectives are broad and general.

AFT analysis of elementary level: No US or world history

"US history is not even addressed until the eighth grade and world history is ignored at the elementary level..."

Response

In North Carolina, social studies is defined as "the integrated study of the social sciences and humanities to promote civic competence." The curriculum presents a balanced approach to the social studies, with histo-

ry being one of seven disciplines addressed. The other disciplines are anthropology, psychology, sociology, geography, political science, and economics. There are history goals and objectives for each grade at the elementary level (K-5).

K-3 level:

- There are two goals which address history at each grade:

  Goal 6: The learner will characterize/identify/evaluate change in different settings.

  Goal 7: The learner will elaborate on/analyze religious and other cultural traditions.

- The introduction to the grade three goals and objectives specifies that the "variety of settings" referred to in goal 6 should include Africa, Asia, Europe, and Latin America as well as the United States and North America.

- The introduction further specifies focus on history through the concept of change by stating that "in each unit of instruction, at least one time period, such as the colonial or Pre-Civil War periods, should be examined…"

Grades 4-5:

- There are two goals which address history at these grade levels:

  Grade 4—Goal 11: The learner will assess changes in ways of living over time and investigate why and how these changes occurred in North Carolina.

  Grade 5—Goal 11: The learner will analyze change in ways of living and investigate why and how these changes occurred in the Western Hemisphere.

  Goal 4—Goal 12: The learner will trace developments in North Carolina history and describe their impact on the lives of people today.

  Grade 5—Goal 12: The learner will trace developments in the Western Hemisphere (United States, Canada, and Latin America) and assess their impact on the lives of people today.

- Beginning in grade four and continuing through grade seven, the interdisciplinary approach continues to be used; however, cultural geography is emphasized at this level. Four of the twelve goals for each grade at the 4-7 span focus on geography. History is not intended to be the lead discipline. Only two of the twelve goals address history.

AFT analysis of middle level: Vague US and world history

"…world history is vague at the middle level."

Response

The interdisciplinary approach continues at the middle level, with cultural geography again being emphasized. Students continue their study of the world by focusing on the Eastern Hemisphere—Europe including states formerly in the Soviet Union at sixth grade, and Africa and Asia at grade seven. Concepts for this study are drawn from history and the social sciences, but the primary discipline through which these two grades are taught is cultural geography.

Grades 6-7

There are two goals which address history at these levels:

- **Grade 6—Goal 11:** The learner will analyze changes in ways of living and investigate how and why these changes occur.

- **Grade 7—Goal 11:** The learner will analyze changes in ways of living over time and assess the impact of these changes.

- **Grade 6—Goal 12:** The learner will trace developments in the history of Europe and the former Soviet Republics and describe their impact on the lives of people.

- **Grade 7—Goal 12:** The learner will trace developments in the history of African and Asian nations and judge their impact on the lives of people today.

United States history and world history are addressed through the two history goals at each grade level K-7; however, the specific historical content is not identified in the *Standard Course of Study*.

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Dr. Wayne G. Sanstead
STATE SUPERINTENDENT

Ms. Heidi Glidden
American Federation of Teachers
555 New Jersey Avenue, NW
Washington, DC 20001-2079

Dear Ms. Glidden:

Dr. Wayne G. Sanstead, State Superintendent of Public Instruction, asked me to respond to the fourth-annual American Federation of Teachers' request for information on the "progress and prospects" of standards-based reform in North Dakota. While my response may not comprehensively reflect the Superintendent's views about an organization that arrogates to itself the role of arbiter and judge of our efforts in developing content standards, I believe that on the whole he will be in agreement with most of what follows. (Dr. Sanstead is out of the office and, thus, will not be replying personally.)

By way of brief background, I have been the Project Director in the development of the *North Dakota English Language Arts Curriculum Framework Standards* document as well as its companion assessment documents. This effort began in 1993, long before the National Council of Teachers of English/International Reading Association Standards document was published in 1996. This work also preceded the interests of the American Federation of Teachers' *State-by-State Analysis*. To wit, we have a history of discussing all the points and issues enumerated in the AFT document attending to the *State-by-State Analysis*.

Time and effort do not warrant an engagement with the AFT criteria and rationale for the establishment of state content standards. In this, the AFT criteria are adequate or as good as any. This, however, is not the point, nor will I review my letter to Mr. Matthew Gandal, June 19, 1997, wherein I provided comment on the third AFT report, other than to reiterate: **our curriculum framework documents are of a strictly voluntary nature. School districts use them or ignore them at their will.**

What the AFT *State-by-State Analysis* ignores is the context in which the state standards documents are born and exist. While numerous states have had a decade-long public discussion about the value of state content standards and while many of these states have acted on these discussions through mandated standards and assessments, North Dakota has not. **At this time, the North Dakota State Legislature is silent in its views of state content standards.** Nevertheless, the Department of Public Instruction is making an effort to do what all state standards documents intend to do: identify what's worth knowing and, thus, what's worth teaching in all disciplines. In North Dakota these efforts are made possible only through the creative use of limited funding through the U.S. Department of Education. So, to compare the

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Div of Independent Study
Fargo, ND
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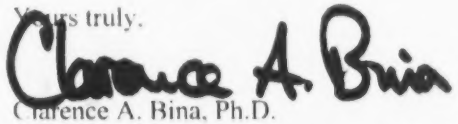
development and promulgation of content standards in North Dakota with those in states that have over the years dedicated and continue to dedicate millions and millions of state dollars to state content standards and assessments is futile and pointless. It is the same as comparing the outcomes of education achievement between have and have-not schools. Again, what is the point of comparing states when all the states do not have legislatively equitable levels of support and commitment?

Our preference is simply not to be included in the AFT's fourth annual *State-by-State Analysis*, knowing beforehand what "scores" will be ascribed to North Dakota. Which brings me to the last point: what does the AFT expect to achieve in this *State-by-State Analysis*? What is the motive? Does the AFT think that by judging North Dakota's standards as "vague" (in almost all instances) that this will have a positive influence on North Dakota lawmakers? Is the object to have states try to "earn checkmarks" from an approving AFT? In my opinion, the AFT charts with their various checkmarks and cryptic comments ("vague content") serve no purpose other than to embarrass and humiliate states that do not measure up to AFT's "judgement." Just as traditional letter grades like D and F never shamed students into achievement neither will AFT's *Analysis*, in my view. Indeed, who does AFT perceive as winners in this enterprise?

By this time the American Federation of Teachers must know, or should know, that public criticism—much of it misguided or ideologically motivated—of public education eventually falls upon state education agencies and the heads of those agencies. These criticisms are frequently and unnecessarily fueled by uninvited national surveys—the results of which are then often used by nondiscriminating media that do not consider the political, demographic, or economic contexts in which state education agencies operate. Nor do survey purveyors consider the impact they have on state superintendents such as Dr. Wayne G. Sanstead, who has had a life-long commitment to public education and who, I know, has now given up his membership of equal longstanding to AFT.

Again, our choice is to be left out of the survey. We have too many other vital concerns that need attending, such as dealing with 1) declining school enrollments, 2) low teacher pay, and 3) continued maintenance of high academic achievement of North Dakota students to be distracted by gratuitous surveys that have, at best, dubious value for North Dakota.

Yours truly,



Clarence A. Bina, Ph.D.
Director of the English Language Arts Project

cc: Dr. Wayne G. Sanstead, State Superintendent
Dr. Gary Gronberg, Assistant Superintendent
Greg Gallagher, Team Leader, School Improvement
Dr. David Sweet, U.S. Department of Education
North Dakota English Language Arts Steering Committee
Chris Runge, Executive Director, North Dakota Public Employees Association/AFT

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Ohio

State of Ohio
Department of Education
Ohio Departments Building, Room 810, 65 South Front Street, Columbus 43215-4183

John M. Goff
Superintendent of Public Instruction

October 20, 1998

Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue NW
Washington, D.C. 20001

Dear Ms. Glidden:

This letter is in response to the draft of the American Federation of Teachers' fourth annual report on standards-based reform in the United States. While the changes made in the current report are applauded, there remain areas of concern that the AFT should address.

The main concern involves the methodologies used in preparing a report that utilizes one set of criteria to states that are improving education in different ways. Some states have a belief that centralized control of education reform will produce desired reform, while other states believe that state guidance is necessary but that true educational reform must occur locally. States that believe the former have an advantage in the AFT review not shared by states believing the latter.

Ohio's curriculum models are not state standards but are guides developed to assist local committees in developing their curriculum. As such, they intentionally do not have the same level of specificity one would expect from centralized-control states. The intent is that local committees will identify the specific content to be included in their curriculum. To analyze local control states such as Ohio, a study should review samples of locally developed curriculum as well as the more general state guidelines.

The draft results of the 1998 study are curious in that we believe that all of our curriculum models have been developed with the same level of specificity. In each one, we left room for local decision making in determining the content to be taught.

A correction that should be made in the draft report, Ohio does not have a ninth-grade English test. Instead, it has separate tests in reading and writing.

Thank you for your attention to these comments.

Sincerely,

John M. Goff

John M. Goff
Superintendent of Public Instruction

Oregon

NORMA PAULUS
State Superintendent
of Public Instruction

OREGON DEPARTMENT OF EDUCATION
Public Service Building, 255 Capitol Street NE, Salem, Oregon 97310-0203
Phone (503) 378-3569 • Fax (503) 373-7968

October 16, 1998

Heidi Glidden
Education Issues Department
American Federation of Teachers
555 New Jersey Avenue, N.W.
Washington, D.C. 20001-2079

Dear Ms. Glidden:

In response to the information we received from you regarding AFT's review of the Oregon Standards, we are submitting recently completed work in response to your assessment of our U.S. and world history standards as "vague."

The enclosed work shows the addition of "domains of knowledge," which clarify the content expectations of each benchmark for purposes of state assessment. Because Oregon will begin assessing student knowledge of U.S. and world history at grades 5, 8 and 10; the development of domains of knowledge at those grade level benchmarks has been a priority. Development of domains of knowledge for benchmarks at grades 3 and 12 will come later.

Content panels are convened to assist in the development of state assessments. They play a major role in the development of domains of knowledge, which do not require State Board approval. The domains of knowledge represent consensus on the specific knowledge and skills students will be held accountable for relative to the State Board adopted benchmarks.

Please consider the enclosed domains of knowledge for U.S. and world history in your review and assessment of the clarity/specificity of Oregon's standards. If you have any questions, please feel free to contact me.

Sincerely,

Joanne Flint

Joanne Flint, Associate Superintendent
Office of Curriculum, Instruction
and Field Services
(503) 378-8004, Ext 259

JF/cl
G:/Lockett/Social Studies Benchmarks/glidden

EDUCATION FIRST!

Pennsylvania

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF EDUCATION
333 MARKET STREET
HARRISBURG, PA 17126-0333

Executive Deputy Secretary

Telephone: 717-787-9744
FAX: 717-787-7222
TTY: 717-783-8445

October 16, 1998

Ms. Heidi Glidden

Educational Issues Department

American Federation of Teachers

555 New Jersey Avenue, N.W.

Washington, DC 20001-2079

Dear Ms. Glidden

Thank you for forwarding an advanced copy of your report, *Making Standards Matter*. I apologize for our late response, but I wish to address two areas in your report that do not accurately reflect the intentions of Pennsylvania.

First, regarding incentives, you state that "there are no incentives for students to meet the standards." I disagree. While I agree that passing the state assessment tests is not a requirement for receiving a high school diploma or grade promotion, the state is instituting a program that rewards a student for achieving a score of proficient or above on the upper level Mathematics or Reading, Writing, Speaking and Listening Assessments. Students who score at this level will have a "Commonwealth Seal" affixed to their diploma at the time of graduation. It is our expectation that employers and higher education institutions will request to see the diploma of an applicant, thus indicating to them the academic achievement level of the student. This will be a common measure across all 501 districts in Pennsylvania. In order to receive the Seal, students must strive to achieve a high academic score on the assessment. We believe that this will be a powerful incentive to the students to take their academics and the assessments seriously.

Second, regarding interventions, you state that "Pennsylvania does not require districts to provide intervention to students having difficulty meeting the standards." I disagree. Pennsylvania recognizes that it is critical for our young students to be able to read at the early grades if they are to have any chance for success throughout their junior and senior high education. Therefore, the regulations that are being adopted do require school districts to provide additional instructional opportunities to students who do not reach a proficient level in the reading and mathematics standards at the end of their third and fifth grades.

Finally, regarding the "draft" science standards, I note that your document states that you based your analysis on a "Proposed Academic Standards for Science and Technology, 1997." The Department of Education had not proposed any Science Standards to the State Board in 1997; I can only assume that your analysis was based upon a working document. In September, 1998, the Department of Education formally proposed Science and Technology Standards to the Pennsylvania State Board of Education. I believe that these standards represent an improvement over the version cited in your study. They are clear, specific, and rigorous at all levels. The State Board is currently reviewing these proposed Science Standards and will consider them for adoption as statewide standards in the coming months. I have enclosed a copy for your review.

Thank you again for providing us a copy of your report.

Sincerely,

R J Tomalis

Ronald J. Tomalis

STATE OF SOUTH CAROLINA

DEPARTMENT OF EDUCATION

Dr. Barbara Stock Nielsen
STATE SUPERINTENDENT OF EDUCATION

October 15, 1998

Ms. Heidi Glidden
American Federation of Teachers
555 New Jersey Avenue, NW
Washington, DC 20001

Dear Ms. Glidden:

Per your request I am submitting a response to AFT's fourth annual report on the progress and prospects of standards-based reform in the United States (*Making Standards Matter 1998*). Our staff has reviewed the South Carolina information and analysis of our state and find that the information provided in the 1998 report is basically accurate with the following corrections.

First, change the first paragraph under "Standards" to read:
Between 1993-96 South Carolina developed curriculum frameworks which included recommendations for teaching and learning, professional development, assessment, and instructional materials as well as broad content standards for grade spans. In 1995-96 these grade span standards were further clarified in supplemental documents called academic achievement standards. In 1998 South Carolina made these standards even more specific through the development of grade-by-grade standards to provide guidance to teachers on the content knowledge and skills students should master at each grade.

Second, under "Documents Reviewed" change the first two document titles listed to:
Mathematics *South Carolina Curriculum Standards* and *Reading English Language Arts South Carolina Curriculum Standards*.

Third, see attached corrections to the assessment and incentives section.

We have noted that in social studies there is one area and one school level in which our standards were rated as less than clear and specific. The document is a draft framework and your feedback will help us to further define the social studies standards for elementary teachers in our state. Thank you for your thorough review of our state's standards. We look forward to the release of the final document on November 5, 1998.

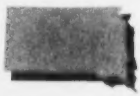
Sincerely,

Barbara S. Nielsen

Barbara S. Nielsen Ed.D.
State Superintendent of Education

Attachments

1429 SENATE STREET · COLUMBIA, SOUTH CAROLINA 29201 · (803) 734-8492 · FAX: (803) 734-3389



Department of Education and Cultural Affairs

October 15, 1998

Heidi Glidden
AFT Educational Issues Department
555 New Jersey Avenue, NW
Washington, DC 20001-2079

Dear Heidi Glidden:

Thank you for providing an opportunity to respond to your fourth annual report regarding Draft II of the South Dakota Content Standards.

South Dakota is currently updating Draft II of the SD Content Standards in the areas of language arts, mathematics, science, and social studies. Draft III will be even clearer and more specific than Draft II, identifying and articulating a core of essential content to be taught at each grade, K-12, in South Dakota schools. The SD State Board of Education will hold a public hearing and take action on the Draft III versions of the mathematics and language arts standards mid-December 1998. Draft III of science and social studies standards will be completed in March 1999; a public hearing will be held in June 1999.

South Dakota students are assessed in grades 2, 4, 8, and 11 using the Stanford 9 norm-referenced test. A third-party analysis of the alignment between the SAT 9 and the newest versions of the South Dakota content standards is planned in 1999.

Thank you for the opportunity to respond to this review.

Sincerely,

Karon L. Schaack
Secretary

Office of the Secretary, 700 Governors Drive, Pierre, SD 57501-2291
Office – (605) 773-3134 Fax – (605) 773-6139

TENNESSEE
STATE DEPARTMENT OF EDUCATION
OFFICE OF COMMISSIONER
NASHVILLE, TENNESSEE 37243-0375

MEMORANDUM

TO: Heidi Glidden
FROM: Bruce Opie, Executive Director
Curriculum and Instruction
DATE: October 15, 1998
SUBJECT: Response to AFT Report

Commissioner Jane Walters forwarded to me the information regarding Tennessee's standards you plan to include in AFT's fourth annual report, *Making Standards Matter 1998*. Attached you will find the written response we wish to include in the report.

I appreciate your objective analysis and the opportunity to both review and respond.

Written Response—Tennessee

Tennessee's standards in the four core subjects are presented in the Tennessee Curriculum Frameworks. The standards for each content area contain the key concepts and minimum expectations of each standard and "shall be the basis for planning instructional programs at the local level." [Prefaces] The process of designing the local instructional program includes determination of the specific content expectations at each grade level.

Providing frameworks as a basis for local curriculum efforts is a new process for Tennessee districts. However, three-day regional institutes and state contacts have been made available for district teams. Facilitation of this effort has resulted in the implementation of local plans developed by empowered local educators, district curriculum coordinators, and school-based administrators. These teams have the flexibility and responsibility for designing, implementing, and modifying each local plan.

The SEA is in the process of developing a supplement to the Tennessee Curriculum Frameworks which will provide Performance Indicators for each content standard. These Performance Indicators will be aligned with existing state assessments in grades 3-8 and proposed state assessments for grades 9-12. Sample performance tasks and suggestions for integration connections will also be provided.

pc: Commissioner Walters

Texas

Texas Response to the American Federation of Teachers the Draft of Making Standards Matter 1998

Standards

The first sentence summarizing the extent to which the Texas Essential Knowledge and Skills (TEKS) meet the AFT's criteria for standards is accurate—they are TEKS for the core areas. The second sentence is accurate as far as it goes but is incomplete. For instance, the statement implies that high school students are required to take only three years of English; this is inaccurate. There are also other common standards required of students than those listed. Common science standards are addressed below.

English Language Arts and Reading

While the AFT document praises the English language arts curriculum for the specificity at the early grades and at the high school level, AFT criticized the "middle level" for a lack of specificity. The term "middle level" was not defined. Staff assumed this to mean Grades 6, 7, and 8.

In particular, middle level grades were criticized for a lack of attention to detail in "reading comprehension" and in the area of "writing forms." While reading comprehension is listed as one of the TEKS areas to be covered at these grade levels, there is no section entitled "writing forms." Staff assumed AFT reviewers were referring to the section entitled "Writing/purposes." In this section students are asked to write for a variety of audiences and purposes and in a variety of forms.

With regard to reading comprehension, AFT may be confusing specificity with sameness. Reading Comprehension TEKS and Student Expectations are the same for Grades 4 through 8. Because the TEKS did not have an accompanying list of required reading, students may appear as if they are not progressing to more and more difficult skills. However, local districts choose what students should read at all grade levels. Therefore, as districts increase the difficulty of the materials students read at each subsequent level, they are in fact increasing the demands made upon the reader's abilities to use his or her comprehension skills.

Much the same holds true with writing. While a slight distinction is made between Grade 6 and the upper middle grades, the complexity of the topic chosen will determine the complexity of the writing standards addressed. For example, the persuasive piece the student composes at Grade 6 may lobby for less homework at the middle school level from a personal perspective. Seventh and eighth grade students may bring in the relevance of the work and their preparation for high school and the world beyond. Rubrics are provided for student compositions at Grades 4, 8, and exit level through the state assessment program. These rubrics correspond to the test of written composition at those grade levels.

In fact, the English Language Arts and Reading TEKS purposely vary in their specificity. Some TEKS are very specific and apply to a particular grade level, such as in beginning reading. Specific skills and strategies do appear at grades 6, 7, and 8. For example, students in these middle grades are asked to use such verb tenses as present, past, future, perfect, and progressive, both appropriately and consistently. Additionally, 7th and 8th graders must demonstrate mastery of such frequently misspelled words as their, they're, and there. However, if written composition and reading comprehension are examined K-12, the reader/reviewer will find strong similarities. The skills and strategies do not change, and they should not. What does change is the complexity of the composition being written by the student or the materials being read by the student.

Mathematics

The Texas Education Agency appreciates the fact that the AFT recognizes the clarity and specificity of the mathematics TEKS. It is misleading, however, to say that Texas has no geometry standards that all students must meet at high school. Texas has rigorous geometry standards in the high school Geometry course. Although it is possible for students to graduate without taking Geometry, students must take either Geometry or Algebra II under current graduation course requirements.

The geometry standards that all student must meet at high school are the geometry objectives on the TAAS mathematics exit exam. There are two TAAS objectives regarding geometry. Objective 3 states "The student will demonstrate an understanding of geometric properties and relationships." Targets under that objective include (A) "Use the basic elements of geometry (point, line, segment, ray, angle)," (B) "Use geometric figures and their characteristics," (C) "Use right-triangle properties,"

(D) "Use indirect measurement with similar triangles," and (E) "Apply geometric properties." Objective 4 states "The student will demonstrate an understanding of measurement concepts using metric and customary units." Targets under this objective include (A) "Use metric and customary units," (B) "Solve problems involving measure," (C) "Find distance, perimeter, circumference, area, surface area, and volume," and (D) "Recognize precision."

Science

The Texas Education agency is pleased that the AFT recognizes the state's rigorous science standards in grades K-8 as outstanding examples that provide a curriculum framework for quality science education. While it is true that not all Texas students take the same set of science courses for graduation, there are standards for every secondary science course. Furthermore, the board encourages and recognizes school achievement of students who graduate under the Recognized High School Program and Distinguished Achievement Program that do have a common core of subjects—Biology, Chemistry, and Physics.

Social Studies

While it is true that the social studies TEKS do not include a world history course at the elementary and middle school levels, it is clearly inaccurate to say the "standards pay little to no attention to world history at all three levels." For example, at the middle school level, the social studies TEKS "analyze the historical background of selected contemporary societies to evaluate relationships between the past conflicts and current conditions." The high school TEKS include a comprehensive, rigorous, and specific course in World History Studies which includes expectations such as "identifying the causes and characteristics of the European Renaissance and the Reformation eras." Further, it is troubling that a judgment of "Vague world history" kept the social studies TEKS from earning a check mark at any of the three levels since "world history content" is not listed anywhere in the criteria for evaluation.

The citation listed as "seventh" grade TEKS used to substantiate "little…attention to world history" at the middle school level is actually taken from the culture (not the history) strand of the Grade 6 TEKS. Staff recommends a review of the history strand at Grade 6.

It is also true that the first "specific history" (i.e., Texas history) does not come until Grade 4; however, there is a history strand in each of the preceding grades in which students are required to begin acquiring selected historical content and developing an understanding of concepts necessary in a formal study of history. Examples of the former include origins of selected customs and holidays of the state and nation, contributions of historical figures. Examples of the latter include chronological order, use of a calendar, multiple interpretations of a single event.

It is also noteworthy that all of the commentary relates to the treatment of history, to the complete exclusion of any other social studies discipline. Clearly, the Texas social studies standards meet the criterion outlined in Issue 1: there are TEKS in the four core academic subjects. In terms of Issue 2 and its three sub-criteria, the social studies TEKS outline common content and skills for each grade, kindergarten-12; they are detailed, explicit, and firmly rooted in the social studies disciplines of history, geography, government, and economics as well as in other areas important to social studies; and at every grade level and course, a clearly articulated skills section accompanies the content. It is difficult to understand any conclusion other than that the social studies TEKS meet or exceed the stated criteria.

Assessments

The description should eliminate the grade level "ten" and substitute the term "exit."

Incentives

The description should list "exit" instead of "10th-grade" and should note that the tests are based on 8th, 9th and 10th grade standards. In addition, students are exempt from the exit level assessments if they pass English II, and Algebra I and one of either U.S. History or Biology.

The advanced and advanced with honors diplomas are being phased out . Students are eligible to receive seals on their diplomas for graduating under the Recommended Graduation Plan or the Distinguished Achievement Program when they take and pass the courses and advanced measure that are required beyond the Minimum Program. Other incentives include at lease partial payment of Advanced Placement test fees for students in need.

October 26, 1998

Heidi Glidden
American Federation of Teachers
555 New Jersey Avenue, N.W.
Washington, D.C. 20001

Dear Ms. Glidden:

UTAH STATE OFFICE OF EDUCATION
250 East 500 South
Salt Lake City, Utah 84111

Scott W. Bean
State Superintendent of Public Instruction

The following information is provided in response to the American Federation of Teachers report, *Making Standards Matter 1998:*

General Response

Changes in curriculum in Utah are not made on the basis of evaluations from entities outside the state. Our Core Curriculum undergoes revisions periodically in every area, based on perceived need within the state (see attached page entitled, "Core Curriculum Development Process"). As revisions are made, a careful review of the latest research and best practices are considered in the subject area of Core revision. Curriculum standards from other states and national standard documents are examined and used, when appropriate, in ways that will best serve Utah students. In the development of a Core Curriculum, public hearings are held to receive input from parents, teachers, administrators, students, preservice educators, and the community. Before a Core Curriculum is adopted by the Utah State Board of Education, it undergoes a second set of public hearings so the curriculum developed meets the needs of Utah students, their families, and their communities.

The Utah State Board of Education/Utah State Board for Applied Technology Education

Katharine B. Garff, Chair
John L. Watson, Vice Chair
Linnea S. Barnes
Sonia Brown
Janet A. Cannon
Cheryl Ferrin
Lynn Haslem
Susan Christensen
C. Grant Hurst
Boyd F. Jensen
Jed Kennedy
Kay M. Murdough
Joyce W. Richards
Marlene Shields
Winston Small

Standards

Issue I: Does the state have, or is it in the process of developing standards, in the four core academic subjects- English, math, science, and social studies?

Response: We agree that states need standards that specify what students are expected to learn in core academic subjects.

Issue II: Are the standards clear and specific enough to provide the basis for a common core curriculum from elementary through high school?

Response:

1. Although we agree that standards should be clear and specific, we disagree that it is necessary to require a common set of classes through high school. High school students need to be able to tailor their programs to their needs and interests. AFT, in their zeal to ensure "high expectations for achievement" through alignment in the system (e.g., common standards for all students through high school in core areas) would dictate specific courses for high school students, thus removing much flexibility for students to specialize in preparing for post-high school activities.

AFT claims that because Utah does not mandate **WHAT** courses students are to take in high school in science and math, that there are "no standards." High school students are required to take Algebra and one other higher level math course in order to graduate. Post-secondary institutions in the state require students to have completed Intermediate Algebra. Therefore, at least 80% of graduating seniors meet this requirement. All students must meet the curriculum standards in English grades 9, 10, and 11: and 75 percent of Utah students take a fourth year of high school English.

In the area of science, every student must take a biological science (biology) and a physical science (physics or chemistry) course. Core standards exist for all courses mentioned above. They can be reviewed at the following Internet address (http://www.usoe.k12.ut.us/curr).

Voice: (801) 538-7500
FAX: (801) 538-7521
TDD: (801) 538-7876

The graduation requirements specify the number of credits students are required to take in these areas. Core curriculum standards do exist for courses that satisfy these requirements. Therefore, standards **DO** exist. Secondary social studies and English curricula are under revision.

2. While we agree that the standards should be specific, some of the AFT examples are so specific that they reduce curriculum to rote memorization (e.g., math

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example of a "clear standard").

Assessment

Issue: Does or will the state have an assessment system aligned with the standards? If so, will the state assess students in all four core subjects and in each of the three grade spans?

Response: The AFT statement asserts that unless state assessments are required or mandated, schools and districts will not take the responsibility to implement standards and communicate high expectations for performance to students. We believe that unless the incentive to perform well comes from teachers and students, mandated state assessments will more likely encourage unethical behavior on the part of teachers than good student performance. It is unfair to say that because Utah does not mandate testing for all students that "there are no incentives for students to meet the standards."

As is pointed out by AFT, " developing a good assessment system is expensive" and requires "expertise" not often found in districts. While it may be "unfair and unrealistic… to expect cash-strapped districts to develop their own assessments," the same is true of "cash-strapped" state departments. AFT clearly implies that all districts are poor and all state departments are rich. In truth, funding is a problem at all levels.

Making Standards Count

Issue 1: Does or will the state require and fund extra help for students not meeting the standards?

Response: The AFT statement for Utah on interventions is inaccurate and untrue. Teachers are expected to monitor student progress in all areas (see graduation requirements and proposed accreditation procedure) and to provide remediation as needed as part of each students' regular education.

Information in the Statement was apparently derived from one piece of legislation referring to elementary language arts that applies only to that segment of the curriculum. In addition, it was misinterpreted. Other legislation states that school districts may charge fees for remediation. However, no where in the legislation is there any statement to the effect that the state "holds parents responsible for financing interventions."

Issue 2: Does or will the state require districts and schools to make student promotion decisions based, in part, on state assessment results?

Response: The state does not make promotion decisions. The AFT statement asserts that unless the state mandates districts and schools to make promotion decisions based on state assessment results, they will not take the responsibility to implement policies and procedures dealing with this issue. Utah districts and schools use assessment results as well as many other indicators to make decisions on promotion issues. These decisions are much better made at the local level as they are familiar with the needs of the students.

Issue 3: Does the state have graduation exams linked to the standards that all students must pass to graduate from high school?

Response: The state does not make graduation decisions. The Utah State Board of Education requires a minimum of 24 units of credit earned by students from passing courses to graduate from high school. Utah school districts generally require several additional units of credits. The AFT statement asserts that unless the state mandates school districts to administer graduation exams, that districts and schools will not make responsible decisions in regard to students and graduation. Again, Utah districts and schools use assessment results for many purposes and these decisions are much better made at the local level.

Thank you for the opportunity to respond.

Sincerely,

Scott W. Bean

Scott W. Bean
State Superintendent
of Public Instruction

Vermont

STATE OF VERMONT

DEPARTMENT OF EDUCATION

120 State Street

Montpelier, VT 05620-2501

October 22, 1998

Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, N.W.
Washington, D.C. 2001-1079

Dear Ms. Glidden:

Thank you for the opportunity to review the recent analysis of Vermont's academic standards and the system that supports them. We appreciate AFT's continuing efforts to monitor the quality and implementation of high academic standards, standards-based curricula, and related assessments.

Vermont is nearing completion of an extensive eighteen-month review of its standards (found in the 1996 *Framework of Standards and Learning Opportunities*), and the system that supports their implementation. The materials which you reviewed, therefore, unfortunately could not reflect significant revision, in most *Frameworks* areas, that are being carefully drafted and circulated for comment. We will send you a copy of the revised standards after they are adopted by the State Board of Education.

Your earlier reviews of our standards, and those by the Council for Basic Education and the Fordham Foundation, have been positive influences in the demanding process of *Framework* revision.

On the issue of incentives, it is important to inform you of the current status of Vermont's Governor's Diploma. The State Board, pursuant to statute and after a thorough process, has approved draft rules for formal public comment.

The Governor's Diploma will be earned by students who receive a local diploma and who meet or exceed Vermont standards, as measured by the statewide assessments in mathematics, science, reading and writing, and history and social science. Contingent on completion of the rule making process, the Diploma will be phased in starting in school year 2000 - 2001. The Department and State Board are working with public and private colleges and universities, and employers, to ensure that the Governor's Diploma will be recognized in ways that reflect our students' achievement of high academic standards.

Again, thank you for sending us your review and for seeking our response.

Sincerely,

Marc Hull, Commissioner
Vermont Department of Education

Virginia

COMMONWEALTH of VIRGINIA

DEPARTMENT OF EDUCATION
P.O. BOX 2120
RICHMOND 23218-2120

October 21, 1998

Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, N.W.
Washington, DC 20001-2079

Dear Heidi:

Thank you so much for the opportunity to review information about the criteria that was used to analyze state standards and the systems that support those standards. We especially appreciate the opportunity in which AFT has always given staff to review our state information and analysis prior to the publication.

Standards section:
Based on a review of the last two editions of *Making Standards Matter* (copies attached) and considering the fact that Virginia's standards have not changed over the last several years and that these are the same standards that AFT has rated as exemplary since the reports were initiated, we were shocked at the proposed analysis of Virginia's Standards of Learning. Having reviewed the criteria, we would like to provide information to correct what we believe to be inaccuracies in the analysis.

English Standards for grades 9-12—no reading or writing basics

- The English standards, which students in the Commonwealth are to master, are cumulative. English standards in the early grades have specific content and skills, which are intended to serve as building blocks for the standards at the high school level. For example, while grammar skills are addressed specially in grades K-8, in grades 9-12 students are expected to apply those skills in order **"to edit final copies for correct use of language, spelling, punctuation, and capitalization."** Students are expected to master specific grammar skills in grades K-8 and at the secondary level, they are expected to demonstrate that proficiency.
- **Specific editing skills** are addressed on the Secondary writing assessment, both in the form of multiple choice questions and on the direct writing assessment as one of the rubrics is **usage/mechanics**. In addition, a **skills list** is published with the secondary blueprints for the test to delineate the specific skills students are expected to have mastered.
- Additionally, "**Standard 11.3 The student will read and analyze relationships among American literature, history, and culture**" may appear to be general, if, in fact, one reviews the goals of the English standards, one sees that students are expected to become familiar with exemplary authors and literary works, **and "a significant percentage of the readings at each grade level will be literary classics."**
- At the secondary level, students are required to read and analyze myriad types of literature and technical texts. Therefore, while we understand AFT's addressing the general nature of some of our secondary English standards, we do not understand or support the statement that denotes a

lack of "reading and writing basics." At every grade level K-12 there are process writing standards, reading process standards, and literature standards. All of these standards address those skills, processes, and content which we deem necessary for our students in the Commonwealth **"to participate in society as literate citizens, equipped with the ability to communicate effectively in their communities, in the work place, and in postsecondary education."**

Math—no geometry standards

- This statement is incorrect. It appears that the analyst has interpreted Virginia's graduation requirements and assessment information to mean that we do not require students to take geometry and to take the end of course assessments to graduate. In reality, **Virginia does require students to take geometry and to take the end of course assessment.** Enrollment in the course triggers the assessment. Students do not have to pass the assessment to graduate, but all students must pass geometry to graduate.
- Your own analysis of the assessments indicates that the end-of-course tests are "based on the standards," which would indicate that there are in fact required standards.

Science—no standards

All students in Virginia are expected to have mastered the essential foundations in science by the end of eighth grade. **At the high school level, Virginia has clear, content based standards in the four basic science disciplines—biology, chemistry, earth science, and physics.** The state graduation requirements do not dictate that students take a particular science, however, each student must successfully complete three years of science in a minimum of two of these disciplines. It would appear that minimally you should amend the last sentence of the science standards section to read **"..Instead, students choose from a list of science courses that are defined by rigorous, challenging content standards." The box chart should include an asterisk in the box, which denotes the fact that students choose from a list of student courses defined by rigorous, challenging, content standards.**

Assessment section:
No changes recommended

Incentives section:
Substitute attached

Interventions section:
Substitute attached

Please feel free to contact me at 804-225-3252 if you have questions or need further information.

Sincerely,

Jo Lynne DeMary

Jo Lynne DeMary
Assistant Superintendent of Instruction

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Washington

SUPERINTENDENT OF PUBLIC INSTRUCTION

DR. TERRY BERGESON OLD CAPITOL BUILDING • PO BOX 47200 • OLYMPIA WA 98504-7200

October 19, 1998

Ms. Heidi Glidden
AFT
555 New Jersey Ave. NW
Washington, DC 20001

Dear Ms. Glidden:

The following document was received at OSPI on October 13th and reached my desk Saturday, October 17th. While I would generally agree with the section on standards, it does not reflect the priority which has been given to teacher and public ownership of the standards. They are considered works in progress which will be tightened and tailored over time.

Washington is using assessments as a major way of creating an awareness of gaps in our systems of curriculum and instruction. Attached you will find a rewrite of the assessment section.

If there is any additional information I can provide, please let me know. My telephone number is (360) 753-2593 and my e-mail address is smccune@ospi.wednet.edu.

Sincerely,

Shirley McCune
Educational Liaison

West Virginia

WEST VIRGINIA DEPARTMENT OF EDUCATION

Dr. Henry R. Marockie, State Superintendent of Schools
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October 14, 1998

Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, NW
Washington, D.C. 20001-2079

Dear Ms. Glidden:

As stated in the letter dated October 6, 1998, West Virginia would like to write the following response to five areas based on the judging of West Virginia Standards.

First, we want to clarify one issue in the evaluation of the English standards regarding "Reading Lists." At all grade levels the Reading Comprehension Section of the English Instructional Goals and Objectives begins with an objective, " Read literary works by national and international authors to include but not limited to novels, drama, short story, poetry . . . " Last year in the feedback we received from a previous English standards review, a committee met and drafted a position statement consistent with the IRA/NCTE Standards that states that reading lists are a local decision. We feel that our objective provides a framework from which local county school districts can develop reading lists. Also, the West Virginia Department of Education is committed to providing technical assistance to help develop reading lists.

Second, the comments about social studies were addressed by another committee this summer based on a prior review of the West Virginia Social Studies Standards. This feedback resulted in review and revision of the Social Studies Standards to be released in coordination with the Social Studies Instructional Materials adoption cycle and consistent with the feedback we received.

Third, in the "Assessments Section," no mention was given of the West Virginia Writing Assessment administered to students in grades 4, 7, and 10. This is a performance assessment.

Fourth, Certificates of Proficiency and Warranty at graduation provide an "incentive" for students to do well on the state's assessment of standards.

Last, in the section on "Intervention," the Legislature in 1998 passed legislation in House Bill 4306 that provided funds for summer reading programs. Also, plans are currently underway to develop a comprehensive long-range plan for reading, writing and mathematics instruction.

Thank you for your consideration of these comments.

Sincerely,

Henry Marockie
State Superintendent of Schools

State of Wisconsin
Department of Public Instruction
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John T. Benson
State Superintendent

Steven B. Dold
Deputy State Superintendent

October 19, 1998

Heidi Glidden
Educational Issues Department
American Federation of Teachers
555 New Jersey Avenue, N.W.
Washington, DC 20001-2079

Dear Ms. Glidden:

Thank you for the opportunity to respond to AFT's standards ratings. Of course, we are pleased by the response to our English language arts and mathematics standards. However, Wisconsin's beliefs about standards in science and social studies are somewhat different than AFT's. As NASBE's *Policy Update: Rating States' Content Standards* observes, "ratings reflect different expectations for curriculum." I suggest that one of the reasons your organization finds our English language arts and mathematics standards more satisfying than those in science and social studies lies in the differences among those disciplines. English language arts, and to some extent mathematics, are fairly skill oriented. Therefore, our standards in those areas tend to meet your evaluation criteria. Science and social studies are often viewed as being more grounded in specific content. Our standards reflect our belief that important skills are also the foundation of science and social studies.

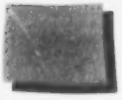
We see our standards as a means by which educators, parents, and students can measure what students know and can do against some external benchmarks. Although content is suggested, the exact curriculum is to be determined by local school districts. The problems that social studies groups, especially in history, have had in agreeing upon standards reflects differences in what groups of people believe to be the essential content, facts, and concepts that students must learn. Well-intentioned citizens may disagree. In Wisconsin, we believe this determination should be made locally. Still, we would point out that our standards, both in science and in social studies, do provide some broad categories of knowledge that students should have. We would ask particularly that readers look at the section at the beginning of the history standard that specifies eras with which students should be familiar.

This having been said, we appreciate the work you are doing to make available to people across the country information about what other states are doing with standards.

Sincerely,

John T. Benson

John T. Benson
State Superintendent



JUDY CATCHPOLE
Superintendent of Public Instruction

Wyoming
Department of Education

October 22, 1998

Ms. Heidi Glidden
American Federation of Teachers
Educational Issues Department
555 New Jersey Avenue, N.W.
Washington, D.C. 20001-2079

Dear Ms. Glidden.

Thank you for allowing us to respond to the evaluation of the Wyoming language arts and math standards by the AFT. The Wyoming Department of Education offers the following comments:

The Wyoming standards state what students should know and be able to do as a result of their educational experiences over a period of years. We write standards that are specific enough to give our school districts guidance and direction, but yet are broad enough to allow them flexibility in the design of their curriculum. In Wyoming, curriculum is set at the district level.

The State Language Arts Committee recognized that the mission of language arts instruction is to provide the skills in reading, writing, speaking, and listening that make learning and performance in all other content areas possible. The skills approach used in writing the standards was a conscious effort by the committee members for the following reasons:

1. The tendency at the secondary level has been to abandon a focus on language arts skills and emphasize content in the areas of literature and creative writing, sometimes at the expense of mastery of the basic skills. The committee members representing Wyoming businesses felt strongly that skills should be emphasized at all levels as content changes depending on the situation, while skills can be applied to any content.

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2. Our mission is to write standards, not curriculum. It is the responsibility of the districts to incorporate the state standards into the development of the curriculum at the district level.
3. The Wyoming Constitution prohibits the State Department of Education or the State Superintendent of Public Instruction from prescribing textbooks; therefore, we do not prescribe lists of books, novels, or stories to be read by all Wyoming students. The local school districts decide which reading materials are appropriate for their students.
4. To prescribe specific reading materials in the state standards would be to ignore that students may be asked time and again to repeat content they have already mastered.
5. Reading, writing, listening, and speaking are tool skills to be used across the curriculum.

Reading basics have been addressed at all benchmark levels in the language arts standards. In our lexicon, "reading basics" refers to basic skills such as decoding skills and comprehension skills. Decoding skills are emphasized at the lower levels, and comprehension skills are emphasized at all levels.

Student performance standards or descriptors accompany the content standards at each benchmark to provide more clarification and meaning. After the first administration of the statewide assessment based on these state standards, real student work will be available, and the descriptors will be revised to provide even more clarity.

Sincerely,

Annette Bohling

Annette R. Bohling, J.D.
WDE Standards Coordinator

ARB/jo

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Appendix A— State Documents Reviewed

Alabama

- *Alabama Course of Study: English Language Arts*, 1993
- *Alabama Course of Study: Mathematics Pre-Publication Edition*, 1997
- *Alabama Course of Study: Science*, 1995
- *Alabama Course of Study: Social Studies*, 1998
- *Alabama Direct Assessment of Writing: Grade 5 Annotated Student Response Packet 1996-97*
- *Alabama Direct Assessment of Writing: Grade 7 Annotated Student Response Packet 1996-97*
- *Standards and Objectives (Reading Comprehension, Language, Mathematics, and Science) for Alabama High School Graduation Exam:*

Alaska

- *Alaska Content Standards for Mathematics*, Draft 1998
- *Alaska Content Standards for Reading*, Draft 1998
- *Alaska Content Standards for Writing*, Draft 1998
- *Alaska Department of Education: English/Language Arts Framework*
- *Alaska Department of Education: Mathematics and Science Education [Framework]*, 1995
- *Alaska Standards*, 1995

Arizona

- *Language Arts Standards*, 7/9/97
- *Mathematics Standards and Performance Objectives*, 7/9/97
- *Science Standards and Performance Objectives*, 11/18/97

Arkansas

- *Arkansas Science Curriculum Framework*, 9/95
- *Arkansas Social Studies Curriculum Framework*
- *Setting Standards for the Arkansas Comprehensive Testing and Assessment Program—Grade 11*

California

- *The California Language Arts Content Standards*, Prepublication Edition, 12/97
- *The California Mathematics Academic Content Standards*, Prepublication Edition for Grades K-12, 2/2/98
- *Field Review Draft: Reading/Language Arts Curriculum Framework K-12*, 6/12/98
- *History/Social Science Content Standards Grades K-12*, as recommended to the State Board of Education, 7/8/98
- *Mathematics Framework for California Public Schools Kindergarten Through Grade Twelve*, Draft 9/5/97
- *Science Content Standards Grades K-12*, as recommended to the State Board of Education, 7/1/98

Colorado

- *Colorado Model Content Standards for Reading & Writing*, 7/13/95
- *Colorado Model Content Standards for Mathematics*, 6/8/95
- *Colorado Model Content Standards for Science*, 11/9/95
- *Colorado Model Content Standards for History*, 9/14/95
- *Colorado Student Assessment Program: Released Passages, Items, and Prompts from the 1997 Assessment Grade 4 Reading & Writing*
- *Draft Colorado Performance Levels for Reading & Writing*, 3/8/96
- *Draft Colorado Performance Levels for History*, 3/8/96
- *Draft Colorado Performance Levels for Mathematics*, 3/8/96
- *Draft Colorado Perfocmance Levels for Science*, 3/8/96
- *Rules for the Administration of Colorado Basic Literacy Act*, 6/97
- *Second Draft Colorado Model Content Standards Civics*, 8/15/96

Connecticut

- *CAPT Language Arts Response to Literature and Writing 1995 Administration*
- *CAPT Mathematics 1995 Administration*
- *CAPT Science 1995 Administration*

- *Connecticut Mastery Test Second Generation Language Arts Handbook*, 1994
- *Connecticut Mastery Test Second Generation Mathematics Handbook*, 1994
- *Language Arts Curriculum Framework*, 3/98
- *Mathematics Curriculum Framework*, 3/98
- *Read, Read, Read*, 6/17/98
- *Science Curriculum Framework*, 3/98
- *Social Studies Curriculum Framework*, 5/98

Delaware

- *New Directions: State of Delaware English Language Arts Curriculum Framework*, 6/95
- *New Directions: State of Delaware Mathematics Curriculum Framework*, 6/95
- *New Directions: State of Delaware Science Curriculum Framework*, 6/95
- *New Directions: State of Delaware Social Studies Curriculum Framework*, 6/95
- *Teachers' Desk Reference: Delaware Content Standards and Performance Indicators Grades 6-8*, 5/98
- *Teachers' Desk Reference: Delaware Content Standards and Performance Indicators Grades K-5*, 1998

District of Columbia

- *Achieving the Standards: Benchmark Expectations for English Language Arts and Mathematics* (Consultation Draft), 11/97
- *Achieving the Standards: Curriculum Resource Notebook Elementary Grade Level Expectations—Intermediate Grades 4-6* (Consultation Draft), 8/97
- *Achieving the Standards: Curriculum Resource Notebook Elementary Grade Level Expectations—Primary Grades K-3* (Consultation Draft), 8/97
- *Achieving the Standards: Curriculum Resource Notebook Secondary Grade Level and Course Expectations* (Consultation Draft), 8/97
- *English Language Arts and History Curriculum Framework*, 7/96
- *Mathematics, Science and Technology Curriculum Framework*, 11/95
- *New Standards Performance Standards Volume 1—Elementary School*, 1997
- *New Standards Performance Standards Volume 2—Middle School*, 1997
- *New Standards Performance Standards Volume 3—High School*, 1997

Florida

- *FCAT Mathematics Sample Test Scoring Guide and Answer Key (Grade 5)*, 1998
- *Florida Course Descriptions: Sunshine State Standards 1998 Revisions: Volume I (grades 6-12, Basic and Adult Education)*, 1998
- *Florida Curriculum Framework: Language Arts Pre K-12 Sunshine State Standards and Instructional Practices*, 1996
- *Florida Curriculum Framework: Mathematics Pre K-12 Sunshine State Standards and Instructional Practices*, 1996
- *Florida Curriculum Framework: Science Pre K-12 Sunshine State Standards and Instructional Practices*, 1996
- *Florida Curriculum Framework: Social Studies Pre K-12 Sunshine State Standards and Instructional Practice*, 1996
- *Florida Writes! Report on the 1996 Assessment (Grade 4)*, 1996
- *Florida Writes! Report on the 1996 Assessment (Grade 8)*, 1996
- *Florida Writes! Report on the 1996 Assessment (Grade 10)*, 1996
- *Sunshine State Standards: Language Arts, Mathematics, Science and Social Studies*, 6/98

Georgia

- *Georgia Grade 8 Writing Test-Teacher's Guide*, 1990
- *Georgia High School Graduation Test Content Description for English Language Arts*, 8/93
- *Georgia High School Graduation Test Content Description for Mathematics*, 8/93
- *Georgia High School Graduation Test Content Description for Science*, 8/93
- *Georgia High School Graduation Test Content Description for Social Studies*, 8/93
- *Georgia High School Writing Test*, 1993
- *Quality Core Curriculum*, 12/12/97
- *Writing in Georgia's Elementary Schools Grades 3 and 5*, 1994

Hawaii

- *Essential Content*, 12/92
- *Final Report: Hawaii State Commission on Performance Standards*, 6/94
- *Student Outcomes*, 5/93

Idaho

- *Idaho's Standards for Excellence State Exiting Standards, Draft II* 9/21/98
- *Skills-Based Scope & Sequence Guide Language (Grades K-6)*, 1997
- *Skills-Based Scope & Sequence Guide Mathematics (Grades K-6)*, 1997
- *Skills-Based Scope & Sequence Guide Reading (Grades K-6)*, 1997
- *Skills-Based Scope & Sequence Guide Science (Grades K-6)*, 1997
- *Skills-Based Scope & Sequence Guide Social Studies (Grades K-6)*, 1997
- *Skills-Based Scope & Sequence Guide Spelling (Grades K-6)*, 1997
- *Skills-Based Scope & Sequence Guide Writing (Grades K-6)*, 1997

Illinois

- *Illinois Learning Standards*, 7/97

Indiana

- *English/Language Arts Proficiency Guide: Essential Skills for Indiana Students*, Spring 1992
- *Indiana High School English/Language Arts Competencies*, 1997

- *Indiana High School Mathematics Competencies*, 8/95
- *Indiana High School Science Competencies*, 6/95
- *Indiana Science Proficiency Guide*, 8/97
- *ISTEP and Classroom Performance Assessment Mathematics and English/Language Arts Spring/Summer 1996*
- *Mathematics Proficiency Guide*, Spring 1997
- *The Social Studies Proficiency Guide: An Aid to Curriculum Development*, 1996

Iowa

- *Standards Development for School Improvement in Schools* (CD-ROM)

Kansas

- *Mathematics Curriculum Standards*, 6/98—Working Draft
- *Reading & Writing Curriculum Standards*, 5/1/98—Adopted at June 1998 KSBE Meeting

Kentucky

- *Core Content for Assessment Version 1.0*, 1996
- *Kentucky Writing Portfolio Grade 4, Teacher's Handbook Second Edition*, Revised 9/96
- *Kentucky Writing Portfolio Grade 7, Teacher's Handbook Second Edition*, Revised 9/96
- *Kentucky Writing Portfolio Grade 12, Teacher's Handbook Second Edition*, Revised 9/96
- *Learning Descriptions & Research on Children's Learning and Development*, 6/96
- *Program of Studies for Kentucky Schools*, 2/12/98

Louisiana

- *Applied Mathematics I*, Draft 1998
- *Applied Mathematics II*, Draft 1998
- *Algebra I*, Draft 1998
- *Algebra II*, Draft 1998
- *Geometry*, Draft 1998
- *Louisiana Educational Assessment Program (LEAP) For the 21st Century: Teachers' Guide to Statewide Assessments Grades 4, 8, 11 - Science*, Draft 5/98
- *Teachers' Guide to Statewide Assessment: English Language Arts*—Grades 4, 8, & 10, 9/97
- *Teachers' Guide to Statewide Assessment: Mathematics*—Grades 4, 8, & 10, 9/97
- *Louisiana English Language Arts Content Standards*, 5/22/97
- *Louisiana Mathematics Framework*, 5/22/97
- *Louisiana Mathematics Teacher Handbook*, 8/97
- *Louisiana Science Framework*, 5/22/97
- *Louisiana Social Studies Content Standards*, 5/22/97

Maine

- *Learning Results*, 7/97
- *Maine Educational Assessment Performance Level Guide: Elementary*, 1997 School Year
- *Maine Educational Assessment Performance Level Guide: Intermediate*, 1997 School Year
- *Maine Educational Assessment Performance Level Guide: Secondary*, 1997 School Year

Maryland

- *1996 MSPAP and Beyond Maryland School Performance Assessment Program: Score Interpretation Guide*, 12/96
- *High School Core Learning Goals: English*, 9/96
- *High School Core Learning Goals: Mathematics*, 9/96
- *High School Core Learning Goals: Science*, 9/96
- *High School Core Learning Goals: Social Studies*, 9/96
- *Learning Outcomes*, 5/90
- *Maryland English Language Arts Content Standards*, (Draft) 6/30/98
- *Maryland Mathematics Content Standards*, (Draft) 6/30/98
- *Maryland Science Content Standards*, (Draft) 6/30/98
- *Maryland Social Studies Content Standards*, (Draft) 6/30/98
- *MSPAP Public Release Tasks*
- *Working Draft—Maryland School Performance Assessment Program Learning Outcomes: Science Clarification of Outcomes and Indicators*, 10/97
- *Working Draft—Maryland School Performance Assessment Program Learning Outcomes: Social Studies Clarification of Outcomes and Indicators*, 7/96

Massachusetts

- *English Language Arts Curriculum Framework*, 1997
- *Guide to the Massachusetts Comprehensive Assessment System: English Language Arts*, 2/98
- *Guide to the Massachusetts Comprehensive Assessment System: Mathematics*, 1/98
- *Guide to the Massachusetts Comprehensive Assessment System: Science & Technology*, 1/98
- *History and Social Science Curriculum Framework*, 9/97
- *The Massachusetts Mathematics Curriculum Framework: Achieving Mathematical Power*, 1996
- *The Massachusetts Science Curriculum Framework: Owning the Questions Through Science and Technology Education*, 1995

Michigan

- *Michigan Curriculum Framework*, 1996
- *Michigan Curriculum Framework: Mathematics Teaching & Learning Sample Activities*, 1/96
- *Michigan Curriculum Framework: Science Education Guidebook*, 1996

Minnesota

- *Board of Education Proposed Permanent Rules Relating to Graduation Rule, Profile of Learning*, 11/25/97
- *Mathematics Basic Standards Test Specifications*, 1997
- *Mathematics Specifications: Minnesota Comprehensive Assessment for Grades 3 & 5*
- *Minnesota Basic Standard Test of Written Composition: Handbook*, 1997
- *Minnesota Frameworks for Arts Curriculum Strategies*, 1997
- *Minnesota K-12 Mathematics Framework*, 1998
- *Minnesota K-12 Science Framework*, 1997
- *Reading Basic Standards Test Specifications*, 1997
- *Reading Specifications: Minnesota Comprehensive Assessment for Grades 3 & 5*

- *Writing Specifications: Minnesota Comprehensive Assessment for Grades 3 & 5*

Mississippi

- *Compensatory Reading Course Description*, Draft
- *Compensatory Writing I Course Description*, Draft
- *Compensatory Writing II Course Description*, Draft
- *Mississippi Language Arts Framework*, 1996
- *Mississippi Mathematics Curriculum Structure*, 1995
- *Mississippi Science Framework*, 1996
- *Mississippi Social Studies Framework*, 1998
- *Reading Initiative—Reading Instructional Intervention Supplement (Benchmarks, Informal Assessments, Strategies) Grades K-3*, 1998
- *Reading Instructional Intervention Supplement (Benchmarks, Informal Assessment, Strategies) Grades 4-8*, 1998
- *Resource Supplement for Grades K-3 to the Mississippi Language Arts Framework—Draft*, 1998

Missouri

- *Assessment Annotations for the Curriculum Frameworks: Communication Arts*
- *Assessment Annotations for the Curriculum Frameworks: Mathematics*
- *Assessment Annotations for the Curriculum Frameworks: Science*
- *Content Specifications for Statewide Assessment by Standard: Social Studies*, April 13, 1998
- *Missouri's Framework for Curriculum Development in Communication Arts K-12*, 1996
- *Missouri's Framework for Curriculum Development in Mathematics K-12*, 1996
- *Missouri's Framework for Curriculum Development in Science K-12*, 1996
- *Missouri's Framework for Curriculum Development in Social Studies K-12*, 1996

Montana

- *Montana Standards for Mathematics*, Draft 3/10/98
- *Montana Standards for Reading*, Draft 3/10/98

Nebraska

- *Nebraska K-12 Science Standards*, 5/8/98
- *Nebraska K-12 Social Studies Standards*, 5/8/98
- *Nebraska Mathematics Standards*, 2/6/98
- *Nebraska Reading/Writing Standards*, 2/6/98

Nevada

- *Nevada English Language Arts—Content Standards for Grades 2, 3, 5, 8 and 12 and Indicators of Progress for Kindergarten and Grades 1, 4, 6 and 7*, August 20, 1998
- *Nevada Mathematics—Content Standards for Grades 2, 3, 5, 8 and 12 and Indicators of Progress for Kindergarten and Grades 1, 4, 6 and 7*, August 20, 1998
- *Nevada Science—Content Standards for Grades 2, 3, 5, 8 and 12 and Indicators of Progress for Kindergarten and Grades 1, 4, 6 and 7*, August 20, 1998

New Hampshire

- *A 4-6 Mathematics Addendum for the New Hampshire K-12 Mathematics Curriculum Framework*, 10/95
- *A 7-10 Mathematics Addendum for the New Hampshire K-12 Mathematics Curriculum Framework*, 8/96
- *A 7-10 Science Addendum for the New Hampshire K-12 Science Curriculum Framework*, 8/96
- *An Addendum for the New Hampshire K-3 Mathematics Curriculum Framework*, 9/94
- *K-6 Addendum: K-12 English Language Arts Curriculum Framework*, 6/97
- *A K-6 Science Addendum for the New Hampshire K-12 Science Curriculum Framework*, 8/95
- *K-12 English Language Arts Curriculum Framework*, 6/95
- *K-12 Mathematics Curriculum Framework*, 2/95
- *K-12 Science Curriculum Framework*, 2/95
- *K-12 Social Studies Curriculum Framework*, 8/95
- *New Hampshire History Curriculum—Book I, Grades K-6*, 1997

New Jersey

- *Core Curriculum Content Standards*, 5/96
- *Directory of Test Specifications and Sample Items for the Elementary School Proficiency Assessment (ESPA), Grade Eight Proficiency Assessment (GEPA), and High School Proficiency Assessment (HSPA) in Language Arts Literacy*, 2/98
- *Directory of Test Specifications and Sample Items for the Elementary School Proficiency Assessment (ESPA) in Mathematics*, 4/98
- *Directory of Test Specifications and Sample Items for the Elementary School Proficiency Assessment (ESPA) in Science*, 4/98
- *Directory of Test Specifications and Sample Items for the Grade Eight Proficiency Assessment (GEPA), and High School Proficiency Assessment (HSPA) in Mathematics*, 2/98
- *Directory of Test Specifications and Sample Items for the Grade Eight Proficiency Assessment (GEPA), and High School Proficiency Assessment (HSPA) in Science*, 2/98
- *New Jersey Language Arts Literacy Curriculum Framework*, Draft 6/98
- *New Jersey Mathematics Curriculum Framework*, 12/96
- *New Jersey Science Curriculum Framework*, Draft 9/97
- *New Jersey Social Studies Curriculum Framework*, Second Draft 7/98

New Mexico

- *Ideas: Instructional Strategies for Implementing Content Standards and Benchmarks*, 1997
- *Language Arts Content Standards and Benchmarks (Adopted 8/96) Performance Standards 7/98*
- *Mathematics Content Standards and Benchmarks (Adopted 8/96) Performance Standards Second Draft for Field Trial 8/97*
- *Science Content Standards and Benchmarks (Adopted 8/96) Performance Standards Second Draft for Field Trial 8/97*
- *Social Studies Content Standards and Benchmarks (Adopted 8/96) Performance Standards 10/97*

New York

- *English Language Arts Resource Guide*, 1998
- *Learning Standards for English Language Arts*, 3/96
- *Learning Standards for Mathematics, Science, and Technology*, 3/96
- *Learning Standards for Social Studies*, 6/96
- *Math, Science, & Technology Resource Guide*, 1997
- *Mathematics Core Curriculum Guide for Prekindergarten and Kindergarten*, Draft 12/97
- *Mathematics Curriculum Guide*, Draft 11/97
- *New York State Testing Program: English Language Arts Test Sampler Draft—Grade 4*, 1998
- *New York State Testing Program: English Language Arts Test Sampler Draft—Grade 8*, 1998
- *New York State Testing Program: Mathematics Test Sampler Draft—Grade 4*, 1998
- *New York State Testing Program: Mathematics Test Sampler Draft—Grade 8*, 1998
- *Social Studies Resource Guide*, 1997

North Carolina

- *English Language Arts Standard Course of Study*, 1997
- *Mathematics K-12 Standard Course of Study and Grade Level Competencies*, Draft 1998
- *Science Course of Study*
- *Social Studies Standard Course of Study Framework*, 1997
- *Teacher Handbook Communication Skills K-12*, 1997 (Revised)
- *Teacher Handbook Science K-12*, 1994
- *Teacher Handbook Social Studies K-12*, 1997

North Dakota

- *North Dakota Curriculum Frameworks*, Vol. I, 1993
- *North Dakota English Language Arts Curriculum Framework—Standards and Benchmarks*, Revised 1996
- *North Dakota Mathematics Curriculum Framework—Standards and Benchmarks Second Draft in Progress*, Revised 12/5/97

Ohio

- *Fact Sheet Ninth-Grade Proficiency Test in Science*
- *Fact Sheet Twelfth-Grade Proficiency Test in Science*
- *Fact Sheets Twelfth-grade Citizenship*
- *Fact Sheets Twelfth-grade Math*
- *Fact Sheets Twelfth-grade Reading*
- *Fact Sheets Twelfth-grade Writing*
- *Fourth-grade Proficiency Tests: Information Guide*, 8/95
- *High School Proficiency Testing: Fact Sheets Ninth-Grade Citizenship*, 9/90
- *High School Proficiency Testing: Fact Sheets Ninth-Grade Math*, 9/90
- *High School Proficiency Testing: Fact Sheets Ninth-Grade Reading*, 9/90
- *High School Proficiency Testing: Fact Sheets Ninth-Grade Writing*, 9/90
- *Model Competency-Based Language Arts Program*, 1996
- *Model Competency-Based Mathematics Program*, 1994
- *Ohio Fourth-Grade Proficiency Tests: A Resource Manual for Teachers of Fourth Grade*, 1996
- *Ohio Sixth-Grade Proficiency Tests: A Resource Manual for Teachers of Sixth Grade*, 1996
- *A Resource Manual for Teachers of Writing 9*
- *Resource Manual for Teachers of Writing 12*
- *Science: Ohio's Model Competency-Based Program*, 12/94
- *Sixth-grade Proficiency Tests: Information Guide*, 8/95
- *Social Studies: Ohio's Model Competency-Based Program*, 12/94

Oklahoma

- *Priority Academic Student Skills (PASS)* Revised, 3/97

Oregon

- *Assessing Reading at the Third-Grade Benchmark*
- *Mathematics: Teacher Support Package*, 10/96
- *Oregon Standards Social Studies*, 1998
- *Oregon Statewide Writing Assessment Results, Analysis and Sample Student Writings 1993-1997 Grades 8, 10, 11*, 12/97
- *Oregon Statewide Writing Assessment Results, Analysis and Sample Student Writings 1993-1997 Grades 3 and 5*, 12/97
- *Reading and Literature Performance Assessment—A Two-Part Resource Packet Part 1: Grade 5*, 12/97
- *Reading and Literature Performance Assessment—A Two-Part Resource Packet Part 1: Grade 8*, 12/97
- *Reading and Literature Performance Assessment—A Two-Part Resource Packet Part 1: Grade 10*, 12/97
- *Reading Assessment Grades K-4—Third Grade Benchmark*, July 1998
- *Teaching & Learning To Standards*, 5/98
- *Writing Assessment & Instruction A Two-Part Resource Packet for Teachers Part 1: Certificate of Initial Mastery (CIM) Performance Standards Grade 10*, 12/96
- *Writing Assessment & Instruction: A Two-Part Resource Packet for Teachers Part 1: Performance Standards Grades 3 & 5 Benchmarks Certificate of Initial Mastery (CIM)*, 12/96
- *Writing Assessment & Instruction: A Two-Part Resource Packet for Teachers Part 1: Performance Standards Grade 8 Benchmark Certificate of Initial Mastery (CIM)*, 12/96
- *Writing Assessment & Instruction: A Two-Part Resource Packet for Teachers Part 2: Instructional Materials for Classroom Use Grades 8 and 10*, 12/96

Pennsylvania

- *The Academic Standards for Mathematics*, 4/9/98
- *The Academic Standards for Reading, Writing, Speaking and Listening*, 4/9/98
- *Proposed Academic Standards for Science and Technology*, (Draft) 8/25/98

Puerto Rico

- *Curricular Framework Mathematics Program*, 1996
- *Curricular Guide for the Social Studies Program*, 1992
- *Puerto Rico Math Standards*, 5/96
- *Puerto Rico Science Framework*, 5/96

- *Puerto Rico Science Standards*, 5/96
- *Puerto Rico Social Studies Standards*, 5/96
- *Puerto Rico Spanish Standards*, 5/96

Rhode Island

- *Literacy for ALL Students: Rhode Island English Language Arts Framework*, 1996
- *Mathematical Power for ALL Students: Rhode Island Mathematics Framework K-12*, 10/95
- *Rhode Island State Assessment Program 1996 Writing Assessment: A Guide to Interpretation*
- *Rhode Island State Assessment Program 1997 Mathematics Assessment: A Guide to Interpretation*
- *Science Literacy for ALL Students: The Rhode Island State Science Framework*, 12/94

South Carolina

- *Mathematics—South Carolina Curriculum Standards*, 1/98
- *Reading/English Language Arts—South Carolina Curriculum Standards*, 1/98
- *Science—South Carolina Curriculum Standards*, 1998
- *South Carolina English Language Arts Academic Achievement Standards*, 2/96
- *South Carolina English Language Arts Framework*, 12/96
- *South Carolina Mathematics Academic Achievement Standards*, 11/95
- *South Carolina Mathematics Framework*, 11/93
- *South Carolina Science Academic Achievement Standards*, 11/96
- *South Carolina Science Framework*, 11/96
- *South Carolina Social Studies Framework Field Review Draft*, 6/98

South Dakota

- *South Dakota Communication/Language Arts Standards Draft II*, 3/98
- *South Dakota Mathematics Standards Draft II*, 3/98
- *South Dakota Science Standards Draft II*, 3/98
- *South Dakota Social Studies Standards Draft II*, 3/98

Tennessee

- *English Language Arts Curriculum Framework K-12*, 12/5/96
- *K-12 Social Studies Curriculum Framework*, 5/96
- *Mathematics Framework Grades 9-12*, 1997
- *Mathematics Framework K-8*, 10/11/96
- *Science Framework K-12*, 12/8/95

Texas

- *Chapter 110. TEKS for English Language Arts and Reading*, 1997
- *Chapter 111. TEKS for Mathematics*, 1997
- *Chapter 112. TEKS for Science*, 1997
- *Chapter 113. TEKS for Social Studies*, 1997
- *Exit Level Mathematics Objectives and Measurement Specifications*

Utah

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- *Language Arts Core Curriculum Grades 7-12*, 1991
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